OIPE JC10
MAY 04 2004
PATENT & TRADEMARK OFFICE

Sequence Listing

<110> FREDERIC J. DESAUVAGE
GRETCHEN FRANTZ
KENNETH J. HILLAN
PAUL POLAKIS
ANDREW POLSON
VICTORIA SMITH
SUSAN D. SPENCER
THOMAS D. WU
ZEMIN ZHANG

<120> COMPOSITIONS AND METHODS FOR THE DIAGNOSIS AND
TREATMENT OF TUMOR

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Ala Phe Ala Pro Ile Cys Val Gly Ile Val Phe Leu Gly Phe Thr
                35                  40                  45

Pro Asp His His Cys Gln Ser Pro Gly Val Ala Glu Leu Ser Gln
                50                  55                  60

Arg Cys Gly Trp Ser Pro Ala Glu Glu Leu Asn Tyr Thr Val Pro
                65                  70                  75

Gly Leu Gly Pro Ala Gly Glu Ala Phe Leu Gly Gln Cys Arg Arg
                80                  85                  90

Tyr Glu Val Asp Trp Asn Gln Ser Ala Leu Ser Cys Val Asp Pro
                95                  100                 105

Leu Ala Ser Leu Ala Thr Asn Arg Ser His Leu Pro Leu Gly Pro
                110                 115                 120

Cys Gln Asp Gly Trp Val Tyr Asp Thr Pro Gly Ser Ser Ile Val
                125                 130                 135

Thr Glu Phe Asn Leu Val Cys Ala Asp Ser Trp Lys Leu Asp Leu
                140                 145                 150

Phe Gln Ser Cys Leu Asn Ala Gly Phe Leu Phe Gly Ser Leu Gly
                155                 160                 165

Val Gly Tyr Phe Ala Asp Arg Phe Gly Arg Lys Leu Cys Leu Leu
                170                 175                 180

Gly Thr Val Leu Val Asn Ala Val Ser Gly Val Leu Met Ala Phe
                185                 190                 195

Ser Pro Asn Tyr Met Ser Met Leu Leu Phe Arg Leu Leu Gln Gly
                200                 205                 210

Leu Val Ser Lys Gly Asn Trp Met Ala Gly Tyr Thr Leu Ile Thr
                215                 220                 225

Glu Phe Val Gly Ser Gly Ser Arg Arg Thr Val Ala Ile Met Tyr
                230                 235                 240

Gln Met Ala Phe Thr Val Gly Leu Val Ala Leu Thr Gly Leu Ala
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Tyr Ala Leu Pro His Trp Arg Trp Leu Gln Leu Ala Val Ser Leu
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Pro Thr Phe Leu Phe Leu Leu Tyr Tyr Trp Cys Val Pro Glu Ser
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Pro Arg Trp Leu Leu Ser Gln Lys Arg Asn Thr Glu Ala Ile Lys
                290                     295                     300

Ile Met Asp His Ile Ala Gln Lys Asn Gly Lys Leu Pro Pro Ala
                305                     310                     315

Asp Leu Lys Met Leu Ser Leu Glu Glu Asp Val Thr Glu Lys Leu
                320                     325                     330

Ser Pro Ser Phe Ala Asp Leu Phe Arg Thr Pro Arg Leu Arg Lys
                335                     340                     345

Arg Thr Phe Ile Leu Met Tyr Leu Trp Phe Thr Asp Ser Val Leu
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Tyr Gln Gly Leu Ile Leu His Met Gly Ala Thr Ser Gly Asn Leu
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Tyr Leu Asp Phe Leu Tyr Ser Ala Leu Val Glu Ile Pro Gly Ala
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Phe Ile Ala Leu Ile Thr Ile Asp Arg Val Gly Arg Ile Tyr Pro
                395                     400                     405

Met Ala Met Ser Asn Leu Leu Ala Gly Ala Ala Cys Leu Val Met
                410                     415                     420

Ile Phe Ile Ser Pro Asp Leu His Trp Leu Asn Ile Ile Ile Met
                425                     430                     435

Cys Val Gly Arg Met Gly Ile Thr Ile Ala Ile Gln Met Ile Cys
                440                     445                     450

Leu Val Asn Ala Glu Leu Tyr Pro Thr Phe Val Arg Asn Leu Gly
                455                     460                     465

Val Met Val Cys Ser Ser Leu Cys Asp Ile Gly Gly Ile Ile Thr
                470                     475                     480

Pro Phe Ile Val Phe Arg Leu Arg Glu Val Trp Gln Ala Leu Pro
                485                     490                     495

Leu Ile Leu Phe Ala Val Leu Gly Leu Leu Ala Ala Gly Val Thr
                500                     505                     510

Leu Leu Leu Pro Glu Thr Lys Gly Val Ala Leu Pro Glu Thr Met
                515                     520                     525

Lys Asp Ala Glu Asn Leu Gly Arg Lys Ala Lys Pro Lys Glu Asn
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Thr Ile Tyr Leu Lys Val Gln Thr Ser Glu Pro Ser Gly Thr
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<212> PRT
<213> Homo sapien

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                20                  25                  30

Cys Asp Met Ser His Trp Leu Asn Val Lys Val Ile Leu Glu Glu
                35                  40                  45

Leu Ile Val Arg Gly His Glu Val Thr Val Leu Thr His Ser Lys
                50                  55                  60

Pro Ser Leu Ile Asp Tyr Arg Lys Pro Ser Ala Leu Lys Phe Glu
                65                  70                  75

Val Val His Met Pro Gln Asp Arg Thr Glu Glu Asn Glu Ile Phe
                80                  85                  90

Val Asp Leu Ala Leu Asn Val Leu Pro Gly Leu Ser Thr Trp Gln
                95                 100                 105

Ser Val Ile Lys Leu Asn Asp Phe Phe Val Glu Ile Arg Gly Thr
               110                 115                 120

Leu Lys Met Met Cys Glu Ser Phe Ile Tyr Asn Gln Thr Leu Met
               125                 130                 135

Lys Lys Leu Gln Glu Thr Asn Tyr Asp Val Met Leu Ile Asp Pro
               140                 145                 150

Val Ile Pro Cys Gly Asp Leu Met Ala Glu Leu Leu Ala Val Pro
               155                 160                 165

Phe Val Leu Thr Leu Arg Ile Ser Val Gly Gly Asn Met Glu Arg
               170                 175                 180

Ser Cys Gly Lys Leu Pro Ala Pro Leu Ser Tyr Val Pro Val Pro
               185                 190                 195

Met Thr Gly Leu Thr Asp Arg Met Thr Phe Leu Glu Arg Val Lys
               200                 205                 210

Asn Ser Met Leu Ser Val Leu Phe His Phe Trp Ile Gln Asp Tyr
               215                 220                 225

Asp Tyr His Phe Trp Glu Glu Phe Tyr Ser Lys Ala Leu Gly Arg
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Pro Thr Thr Leu Cys Glu Thr Val Gly Lys Ala Glu Ile Trp Leu
               245                 250                 255

Ile Arg Thr Tyr Trp Asp Phe Glu Phe Pro Gln Pro Tyr Gln Pro
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                260                 265                 270

Asn Phe Glu Phe Val Gly Gly Leu His Cys Lys Pro Ala Lys Ala
                275                 280                 285

Leu Pro Lys Glu Met Glu Asn Phe Val Gln Ser Ser Gly Glu Asp
                290                 295                 300

Gly Ile Val Val Phe Ser Leu Gly Ser Leu Phe Gln Asn Val Thr
                305                 310                 315

Glu Glu Lys Ala Asn Ile Ile Ala Ser Ala Leu Ala Gln Ile Pro
                320                 325                 330

Gln Lys Val Leu Trp Arg Tyr Lys Gly Lys Lys Pro Ser Thr Leu
                335                 340                 345

Gly Ala Asn Thr Arg Leu Tyr Asp Trp Ile Pro Gln Asn Asp Leu
                350                 355                 360

Leu Gly His Pro Lys Thr Lys Ala Phe Ile Thr His Gly Gly Met
                365                 370                 375

Asn Gly Ile Tyr Glu Ala Ile Tyr His Gly Val Pro Met Val Gly
                380                 385                 390

Val Pro Ile Phe Gly Asp Gln Leu Asp Asn Ile Ala His Met Lys
                395                 400                 405

Ala Lys Gly Ala Ala Val Glu Ile Asn Phe Lys Thr Met Thr Ser
                410                 415                 420

Glu Asp Leu Leu Arg Ala Leu Arg Thr Val Ile Thr Asp Ser Ser
                425                 430                 435

Tyr Lys Glu Asn Ala Met Arg Leu Ser Arg Ile His His Asp Gln
                440                 445                 450

Pro Val Lys Pro Leu Asp Arg Ala Val Phe Trp Ile Glu Phe Val
                455                 460                 465

Met Arg His Lys Gly Ala Lys His Leu Arg Ser Ala Ala His Asp
                470                 475                 480

Leu Thr Trp Phe Gln His Tyr Ser Ile Asp Val Ile Gly Phe Leu
                485                 490                 495

Leu Thr Cys Val Ala Thr Ala Ile Phe Leu Phe Thr Lys Cys Phe
                500                 505                 510

Leu Phe Ser Cys Gln Lys Phe Asn Lys Thr Arg Lys Ile Glu Lys
                515                 520                 525

Arg Glu


<210> 84
<211> 469
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```
<212> PRT
<213> Homo sapien

<400> 84
Met Gln Ala Asp Ala Arg Ala Phe Phe Ala Gln Asp Gly Val Gln
1               5                   10                  15

Ser Leu Leu Thr Gln Lys Trp Trp Gly Asp Met Ala Ser Thr Thr
                20                  25                  30

Pro Ile Trp Ala Leu Val Leu Ala Phe Phe Cys Pro Pro Leu Ile
                35                  40                  45

Tyr Thr Arg Leu Ile Thr Phe Arg Lys Ser Glu Glu Glu Pro Thr
                50                  55                  60

Arg Glu Glu Leu Glu Phe Asp Met Asp Ser Val Ile Asn Gly Glu
                65                  70                  75

Gly Pro Val Gly Thr Ala Asp Pro Ala Glu Lys Thr Pro Leu Gly
                80                  85                  90

Val Pro Arg Gln Ser Gly Arg Pro Gly Cys Cys Gly Gly Arg Cys
                95                  100                 105

Gly Gly Arg Arg Cys Leu Arg Arg Trp Phe His Phe Trp Gly Ala
                110                 115                 120

Pro Val Thr Ile Phe Met Gly Asn Val Val Ser Tyr Leu Leu Phe
                125                 130                 135

Leu Leu Leu Phe Ser Arg Val Leu Leu Val Asp Phe Gln Pro Ala
                140                 145                 150

Pro Pro Gly Ser Leu Glu Leu Leu Leu Tyr Phe Trp Ala Phe Thr
                155                 160                 165

Leu Leu Cys Glu Glu Leu Arg Gln Gly Leu Ser Gly Gly Gly Gly
                170                 175                 180

Ser Leu Ala Ser Gly Gly Pro Gly Pro Gly His Ala Ser Leu Ser
                185                 190                 195

Gln Arg Leu Arg Leu Tyr Leu Ala Asp Ser Trp Asn Gln Cys Asp
                200                 205                 210

Leu Val Ala Leu Thr Cys Phe Leu Leu Gly Val Gly Cys Arg Leu
                215                 220                 225

Thr Pro Gly Leu Tyr His Leu Gly Arg Thr Val Leu Cys Ile Asp
                230                 235                 240

Phe Met Val Phe Thr Val Arg Leu Leu His Ile Phe Thr Val Asn
                245                 250                 255

Lys Gln Leu Gly Pro Lys Ile Val Ile Val Ser Lys Met Met Lys
                260                 265                 270
```

Asp Val Phe Phe Phe Leu Phe Phe Leu Gly Val Trp Leu Val Ala
275 280 285

Tyr Gly Val Ala Thr Glu Gly Leu Leu Arg Pro Arg Asp Ser Asp
290 295 300

Phe Pro Ser Ile Leu Arg Arg Val Phe Tyr Arg Pro Tyr Leu Gln
305 310 315

Ile Phe Gly Gln Ile Pro Gln Glu Asp Met Asp Val Ala Leu Met
320 325 330

Glu His Ser Asn Cys Ser Ser Glu Pro Gly Phe Trp Ala His Pro
335 340 345

Pro Gly Ala Gln Ala Gly Thr Cys Val Ser Gln Tyr Ala Asn Trp
350 355 360

Leu Val Val Leu Leu Leu Val Ile Phe Leu Leu Val Ala Asn Ile
365 370 375

Leu Leu Val Asn Leu Leu Ile Ala Met Phe Ser Tyr Thr Phe Gly
380 385 390

Lys Val Gln Gly Asn Ser Asp Leu Tyr Trp Lys Ala Gln Val Thr
395 400 405

Ala Ser Ser Gly Asn Ser Thr Leu Gly Pro Arg Trp Pro Arg Pro
410 415 420

Leu Ser Ser Ser Pro Thr Cys Ala Ser Cys Ser Gly Asn Cys Ala
425 430 435

Gly Asp Pro Gly Ala Pro Ser Arg Pro Pro Arg Pro Ser Ser Ile
440 445 450

Ser Gly Phe Thr Phe Leu Arg Lys Pro Ser Gly Ser Ala Asn Val
455 460 465

Gly Ile Gly Ala

<210> 85
<211> 320
<212> PRT
<213> Homo sapien

<400> 85
Met Thr Leu Trp Asn Gly Val Leu Pro Phe Tyr Pro Gln Pro Arg
1 5 10 15

His Ala Ala Gly Phe Ser Val Pro Leu Leu Ile Val Ile Leu Val
20 25 30

Phe Leu Ala Leu Ala Ala Ser Phe Leu Leu Ile Leu Pro Gly Ile
35 40 45

Arg Gly His Ser Arg Trp Phe Trp Leu Val Arg Val Leu Leu Ser

```
                    50                  55                  60

Leu Phe Ile Gly Ala Glu Ile Val Ala Val His Phe Ser Ala Glu
                65                  70                  75

Trp Phe Val Gly Thr Val Asn Thr Asn Thr Ser Tyr Lys Ala Phe
                80                  85                  90

Ser Ala Ala Arg Val Thr Ala Arg Val Gly Leu Leu Val Gly Leu
                95                  100                 105

Glu Gly Ile Asn Ile Thr Leu Thr Gly Thr Pro Val His Gln Leu
                110                 115                 120

Asn Glu Thr Ile Asp Tyr Asn Glu Gln Phe Thr Trp Arg Leu Lys
                125                 130                 135

Glu Asn Tyr Ala Ala Glu Tyr Ala Asn Ala Leu Glu Lys Gly Leu
                140                 145                 150

Pro Asp Pro Val Leu Tyr Leu Ala Glu Lys Phe Thr Pro Ser Ser
                155                 160                 165

Pro Cys Gly Leu Tyr His Gln Tyr His Leu Ala Gly His Tyr Ala
                170                 175                 180

Ser Ala Thr Leu Trp Val Ala Phe Cys Phe Trp Leu Leu Ser Asn
                185                 190                 195

Val Leu Leu Ser Thr Pro Ala Pro Leu Tyr Gly Gly Leu Ala Leu
                200                 205                 210

Leu Thr Thr Gly Ala Phe Ala Leu Phe Gly Val Phe Ala Leu Ala
                215                 220                 225

Ser Ile Ser Ser Val Pro Leu Cys Pro Leu Arg Leu Gly Ser Ser
                230                 235                 240

Ala Leu Thr Thr Gln Tyr Gly Ala Ala Phe Trp Val Thr Leu Ala
                245                 250                 255

Thr Gly Val Leu Cys Leu Phe Leu Gly Gly Ala Val Val Ser Leu
                260                 265                 270

Gln Tyr Val Arg Pro Ser Ala Leu Arg Thr Leu Leu Asp Gln Ser
                275                 280                 285

Ala Lys Asp Cys Ser Gln Glu Arg Gly Gly Ser Pro Leu Ile Leu
                290                 295                 300

Gly Asp Pro Leu His Lys Gln Ala Ala Leu Pro Asp Leu Lys Cys
                305                 310                 315

Ile Thr Thr Asn Leu
                320

<210> 86
<211> -1
```

<212> PRT
<213> Homo sapien

<400> 86
Met Glu Arg Leu Trp Gly Leu Phe Gln Arg Ala Gln Gln Leu Ser

Pro Arg Ser Ser Gln Thr Val Tyr Gln Arg Val Glu Gly Pro Arg

Lys Gly His Leu Glu Glu Glu Glu Glu Asp Gly Glu Glu Gly Ala

Glu Thr Leu Ala His Phe Cys Pro Met Glu Leu Arg Gly Pro Glu

Pro Leu Gly Ser Arg Pro Arg Gln Pro Asn Leu Ile Pro Trp Ala

Ala Ala Gly Arg Arg Ala Ala Pro Tyr Leu Val Leu Thr Ala Leu

Leu Ile Phe Thr Gly Ala Phe Leu Leu Gly Tyr Val Ala Phe Arg

Gly Ser Cys Gln Ala Cys Gly Asp Ser Val Leu Val Val Ser Glu

Asp Val Asn Tyr Glu Pro Asp Leu Asp Phe His Gln Gly Arg Leu

Tyr Trp Ser Asp Leu Gln Ala Met Phe Leu Gln Phe Leu Gly Glu

Gly Arg Leu Glu Asp Thr Ile Arg Gln Thr Ser Leu Arg Glu Arg

Val Ala Gly Ser Ala Gly Met Ala Ala Leu Thr Gln Asp Ile Arg

Ala Ala Leu Ser Arg Gln Lys Leu Asp His Val Trp Thr Asp Thr

His Tyr Val Gly Leu Gln Phe Pro Asp Pro Ala His Pro Asn Thr

Leu His Trp Val Asp Glu Ala Gly Lys Val Gly Glu Gln Leu Pro

Leu Glu Asp Pro Asp Val Tyr Cys Pro Tyr Ser Ala Ile Gly Asn

Val Thr Gly Glu Leu Val Tyr Ala His Tyr Gly Arg Pro Glu Asp

Leu Gln Asp Leu Arg Ala Arg Gly Val Asp Pro Val Gly Arg Leu

Leu Leu Val Arg Val Gly Val Ile Ser Phe Ala Gln Lys Val Thr

Asn Ala Gln Asp Phe Gly Ala Gln Gly Val Leu Ile Tyr Pro Glu

Pro Ala Asp Phe Ser Gln Asp Pro Pro Lys Pro Ser Leu Ser Ser

Gln Gln Ala Val Tyr Gly His Val His Leu Gly Thr Gly Asp Pro

Tyr Thr Pro Gly Phe Pro Ser Phe Asn Gln Thr Gln Phe Pro Pro

Val Ala Ser Ser Gly Leu Pro Ser Ile Pro Ala Gln Pro Ile Ser

Ala Asp Ile Ala Ser Arg Leu Leu Arg Lys Leu Lys Gly Pro Val

Ala Pro Gln Glu Trp Gln Gly Ser Leu Leu Gly Ser Pro Tyr His

Leu Gly Pro Gly Pro Arg Leu Arg Leu Val Val Asn Asn His Arg

Thr Ser Thr Pro Ile Asn Asn Ile Phe Gly Cys Ile Glu Gly Arg

Ser Glu Pro Asp His Tyr Val Val Ile Gly Ala Gln Arg Asp Ala

Trp Gly Pro Gly Ala Ala Lys Ser Ala Val Gly Thr Ala Ile Leu

Leu Glu Leu Val Arg Thr Phe Ser Ser Met Val Ser Asn Gly Phe

Arg Pro Arg Arg Ser Leu Leu Phe Ile Ser Trp Asp Gly Gly Asp

Phe Gly Ser Val Gly Ser Thr Glu Trp Leu Glu Gly Tyr Leu Ser

Val Leu His Leu Lys Ala Val Val Tyr Val Ser Leu Asp Asn Ala

Val Leu Gly Asp Asp Lys Phe His Ala Lys Thr Ser Pro Leu Leu

Thr Ser Leu Ile Glu Ser Val Leu Lys Gln Val Asp Ser Pro Asn

His Ser Gly Gln Thr Leu Tyr Glu Gln Val Val Phe Thr Asn Pro

Ser Trp Asp Ala Glu Val Ile Arg Pro Leu Pro Met Asp Ser Ser

Ala Tyr Ser Phe Thr Ala Phe Val Gly Val Pro Ala Val Glu Phe

Ser Phe Met Glu Asp Asp Gln Ala Tyr Pro Phe Leu His Thr Lys

Glu Asp Thr Tyr Glu Asn Leu His Lys Val Leu Gln Gly Arg Leu

Pro Ala Val Ala Gln Ala Val Ala Gln Leu Ala Gly Gln Leu Leu

Ile Arg Leu Ser His Asp Arg Leu Leu Pro Leu Asp Phe Gly Arg

Tyr Gly Asp Val Val Leu Arg His Ile Gly Asn Leu Asn Glu Phe

Ser Gly Asp Leu Lys Ala Arg Gly Leu Thr Leu Gln Trp Val Tyr

Ser Ala Arg Gly Asp Tyr Ile Arg Ala Ala Glu Lys Leu Arg Gln

Glu Ile Tyr Ser Ser Glu Glu Arg Asp Glu Arg Leu Thr Arg Met

Tyr Asn Val Arg Ile Met Arg Val Glu Phe Tyr Phe Leu Ser Gln

Tyr Val Ser Pro Ala Asp Ser Pro Phe Arg His Ile Phe Met Gly

Arg Gly Asp His Thr Leu Gly Ala Leu Leu Asp His Leu Arg Leu

Leu Arg Ser Asn Ser Ser Gly Thr Pro Gly Ala Thr Ser Ser Thr

Gly Phe Gln Glu Ser Arg Phe Arg Arg Gln Leu Ala Leu Leu Thr

Trp Thr Leu Gln Gly Ala Ala Asn Ala Leu Ser Gly Asp Val Trp

Asn Ile Asp Asn Asn Phe

<210> 87
<211> 318
<212> PRT
<213> Homo sapien

<400> 87
Met Val Glu Leu Met Phe Pro Leu Leu Leu Leu Leu Leu Pro Phe
1 5 10 15

```
Leu Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser
                 20                  25                  30

Gly Val Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val
                 35                  40                  45

Val Thr Gly Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu
                 50                  55                  60

Leu Ala Gln Arg Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val
                 65                  70                  75

Glu Lys Gly Glu Leu Val Ala Lys Glu Ile Gln Thr Thr Thr Gly
                 80                  85                  90

Asn Gln Gln Val Leu Val Arg Lys Leu Asp Leu Ser Asp Thr Lys
                 95                 100                 105

Ser Ile Arg Ala Phe Ala Lys Gly Phe Leu Ala Glu Glu Lys His
                110                 115                 120

Leu His Val Leu Ile Asn Asn Ala Gly Val Met Met Cys Pro Tyr
                125                 130                 135

Ser Lys Thr Ala Asp Gly Phe Glu Met His Ile Gly Val Asn His
                140                 145                 150

Leu Gly His Phe Leu Leu Thr His Leu Leu Leu Glu Lys Leu Lys
                155                 160                 165

Glu Ser Ala Pro Ser Arg Ile Val Asn Val Ser Ser Leu Ala His
                170                 175                 180

His Leu Gly Arg Ile His Phe His Asn Leu Gln Gly Glu Lys Phe
                185                 190                 195

Tyr Asn Ala Gly Leu Ala Tyr Cys His Ser Lys Leu Ala Asn Ile
                200                 205                 210

Leu Phe Thr Gln Glu Leu Ala Arg Arg Leu Lys Gly Ser Gly Val
                215                 220                 225

Thr Thr Tyr Ser Val His Pro Gly Thr Val Gln Ser Glu Leu Val
                230                 235                 240

Arg His Ser Ser Phe Met Arg Trp Met Trp Trp Leu Phe Ser Phe
                245                 250                 255

Phe Ile Lys Thr Pro Gln Gln Gly Ala Gln Thr Ser Leu His Cys
                260                 265                 270

Ala Leu Thr Glu Gly Leu Glu Ile Leu Ser Gly Asn His Phe Ser
                275                 280                 285

Asp Cys His Val Ala Trp Val Ser Ala Gln Ala Arg Asn Glu Thr
                290                 295                 300

Ile Ala Arg Arg Leu Trp Asp Val Ser Cys Asp Leu Leu Gly Leu
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305 310 315

Pro Ile Asp

<210> 88
<211> 131
<212> PRT
<213> Homo sapien

<400> 88
Met Lys Ile Phe Leu Pro Val Leu Leu Ala Ala Leu Leu Gly Val
1 5 10 15

Glu Arg Ala Ser Ser Leu Met Cys Phe Ser Cys Leu Asn Gln Lys
20 25 30

Ser Asn Leu Tyr Cys Leu Lys Pro Thr Ile Cys Ser Asp Gln Asp
35 40 45

Asn Tyr Cys Val Thr Val Ser Ala Ser Ala Gly Ile Gly Asn Leu
50 55 60

Val Thr Phe Gly His Ser Leu Ser Lys Thr Cys Ser Pro Ala Cys
65 70 75

Pro Ile Pro Glu Gly Val Asn Val Gly Val Ala Ser Met Gly Ile
80 85 90

Ser Cys Cys Gln Ser Phe Leu Cys Asn Phe Ser Ala Ala Asp Gly
95 100 105

Gly Leu Arg Ala Ser Val Thr Leu Leu Gly Ala Gly Leu Leu Leu
110 115 120

Ser Leu Leu Pro Ala Leu Leu Arg Phe Gly Pro
125 130

<210> 89
<211> 343
<212> PRT
<213> Homo sapien

<220>
<221> Unsure
<222> 233, 328, 333
<223> Unknown amino acid

<400> 89
Met Leu Leu Leu Lys Lys His Thr Glu Asp Ile Ser Ser Val Tyr
1 5 10 15

Glu Ile Arg Glu Arg Leu Gly Ser Gly Ala Phe Ser Glu Val Val
20 25 30

Leu Ala Gln Glu Arg Gly Ser Ala His Leu Val Ala Leu Lys Cys
35 40 45

```
Ile Pro Lys Lys Ala Leu Arg Gly Lys Glu Ala Leu Val Glu Asn
                 50                  55                  60

Glu Ile Ala Val Leu Arg Arg Ile Ser His Pro Asn Ile Val Ala
                 65                  70                  75

Leu Glu Asp Val His Glu Ser Pro Ser His Leu Tyr Leu Ala Met
                 80                  85                  90

Glu Leu Val Thr Gly Gly Glu Leu Phe Asp Arg Ile Met Glu Arg
                 95                 100                 105

Gly Ser Tyr Thr Glu Lys Asp Ala Ser His Leu Val Gly Gln Val
                110                 115                 120

Leu Gly Ala Val Ser Tyr Leu His Ser Leu Gly Ile Val His Arg
                125                 130                 135

Asp Leu Lys Pro Glu Asn Leu Leu Tyr Ala Thr Pro Phe Glu Asp
                140                 145                 150

Ser Lys Ile Met Val Ser Asp Phe Gly Leu Ser Lys Ile Gln Ala
                155                 160                 165

Gly Asn Met Leu Gly Thr Ala Cys Gly Thr Pro Gly Tyr Val Ala
                170                 175                 180

Pro Glu Leu Leu Glu Gln Lys Pro Tyr Gly Lys Ala Val Asp Val
                185                 190                 195

Trp Ala Leu Gly Val Ile Ser Tyr Ile Leu Leu Cys Gly Tyr Pro
                200                 205                 210

Pro Phe Tyr Asp Glu Ser Asp Pro Glu Leu Phe Ser Gln Ile Leu
                215                 220                 225

Arg Ala Ser Tyr Glu Phe Asp Xaa Pro Phe Trp Asp Asp Ile Ser
                230                 235                 240

Glu Ser Gly Lys Asp Phe Ile Arg His Leu Leu Glu Arg Asp Leu
                245                 250                 255

Gln Lys Arg Phe Thr Cys Gln Gln Ala Leu Arg Asp Leu Trp Ile
                260                 265                 270

Phe Trp Asp Thr Gly Phe Gly Arg Asp Ile Leu Gly Phe Val Ser
                275                 280                 285

Glu Gln Ile Arg Lys Asn Phe Ala Trp Thr His Trp Lys Arg Ala
                290                 295                 300

Phe Asn Ala Thr Leu Phe Leu Arg His Ile Arg Lys Leu Gly Gln
                305                 310                 315

Ile Pro Glu Gly Glu Gly Ala Ser Glu Gln Gly Met Xaa Arg His
                320                 325                 330

Ser His Xaa Gly Leu Arg Ala Gly Gln Pro Pro Lys Trp
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                335                 340

<210> 90
<211> 911
<212> PRT
<213> Homo sapien

<400> 90
Met Glu Glu Leu Gln Asp Asp Tyr Glu Asp Met Met Glu Glu Asn
  1               5                  10                  15

Leu Glu Gln Glu Glu Tyr Glu Asp Pro Asp Ile Pro Glu Ser Gln
                 20                  25                  30

Met Glu Glu Pro Ala Ala His Asp Thr Glu Ala Thr Ala Thr Asp
                 35                  40                  45

Tyr His Thr Thr Ser His Pro Gly Thr His Glu Val Tyr Val Glu
                 50                  55                  60

Leu Gln Glu Leu Val Met Asp Glu Lys Asn Gln Glu Leu Arg Trp
                 65                  70                  75

Met Glu Ala Ala Arg Trp Val Gln Leu Glu Glu Asn Leu Gly Glu
                 80                  85                  90

Asn Gly Ala Trp Gly Arg Pro His Leu Ser His Leu Thr Phe Trp
                 95                 100                 105

Ser Leu Leu Glu Leu Arg Arg Val Phe Thr Lys Gly Thr Val Leu
                110                 115                 120

Leu Asp Leu Gln Glu Thr Ser Leu Ala Gly Val Ala Asn Gln Leu
                125                 130                 135

Leu Asp Arg Phe Ile Phe Glu Asp Gln Ile Arg Pro Gln Asp Arg
                140                 145                 150

Glu Glu Leu Leu Arg Ala Leu Leu Leu Lys His Ser His Ala Gly
                155                 160                 165

Glu Leu Glu Ala Leu Gly Gly Val Lys Pro Ala Val Leu Thr Arg
                170                 175                 180

Ser Gly Asp Pro Ser Gln Pro Leu Leu Pro Gln His Ser Ser Leu
                185                 190                 195

Glu Thr Gln Leu Phe Cys Glu Gln Gly Asp Gly Gly Thr Glu Gly
                200                 205                 210

His Ser Pro Ser Gly Ile Leu Glu Lys Ile Pro Pro Asp Ser Glu
                215                 220                 225

Ala Thr Leu Val Leu Val Gly Arg Ala Asp Phe Leu Glu Gln Pro
                230                 235                 240

Val Leu Gly Phe Val Arg Leu Gln Glu Ala Ala Glu Leu Glu Ala
                245                 250                 255
```

Val Glu Leu Pro Val Pro Ile Arg Phe Leu Phe Val Leu Leu Gly
260 265 270

Pro Glu Ala Pro His Ile Asp Tyr Thr Gln Leu Gly Arg Ala Ala
275 280 285

Ala Thr Leu Met Ser Glu Arg Val Phe Arg Ile Asp Ala Tyr Met
290 295 300

Ala Gln Ser Arg Gly Glu Leu Leu His Ser Leu Glu Gly Phe Leu
305 310 315

Asp Cys Ser Leu Val Leu Pro Pro Thr Asp Ala Pro Ser Glu Gln
320 325 330

Ala Leu Leu Ser Leu Val Pro Val Gln Arg Glu Leu Leu Arg Arg
335 340 345

Arg Tyr Gln Ser Ser Pro Ala Lys Pro Asp Ser Ser Phe Tyr Lys
350 355 360

Gly Leu Asp Leu Asn Gly Gly Pro Asp Asp Pro Leu Gln Gln Thr
365 370 375

Gly Gln Leu Phe Gly Gly Leu Val Arg Asp Ile Arg Arg Arg Tyr
380 385 390

Pro Tyr Tyr Leu Ser Asp Ile Thr Asp Ala Phe Ser Pro Gln Val
395 400 405

Leu Ala Ala Val Ile Phe Ile Tyr Phe Ala Ala Leu Ser Pro Ala
410 415 420

Ile Thr Phe Gly Gly Leu Leu Gly Glu Lys Thr Arg Asn Gln Met
425 430 435

Gly Val Ser Glu Leu Leu Ile Ser Thr Ala Val Gln Gly Ile Leu
440 445 450

Phe Ala Leu Leu Gly Ala Gln Pro Leu Leu Val Val Gly Phe Ser
455 460 465

Gly Pro Leu Leu Val Phe Glu Glu Ala Phe Phe Ser Phe Cys Glu
470 475 480

Thr Asn Gly Leu Glu Tyr Ile Val Gly Arg Val Trp Ile Gly Phe
485 490 495

Trp Leu Ile Leu Leu Val Val Leu Val Val Ala Phe Glu Gly Ser
500 505 510

Phe Leu Val Arg Phe Ile Ser Arg Tyr Thr Gln Glu Ile Phe Ser
515 520 525

Phe Leu Ile Ser Leu Ile Phe Ile Tyr Glu Thr Phe Ser Lys Leu
530 535 540

Ile Lys Ile Phe Gln Asp His Pro Leu Gln Lys Thr Tyr Asn Tyr

545 550 555

Asn Val Leu Met Val Pro Lys Pro Gln Gly Pro Leu Pro Asn Thr
560 565 570

Ala Leu Leu Ser Leu Val Leu Met Ala Gly Thr Phe Phe Phe Ala
575 580 585

Met Met Leu Arg Lys Phe Lys Asn Ser Ser Tyr Phe Pro Gly Lys
590 595 600

Leu Arg Arg Val Ile Gly Asp Phe Gly Val Pro Ile Ser Ile Leu
605 610 615

Ile Met Val Leu Val Asp Phe Phe Ile Gln Asp Thr Tyr Thr Gln
620 625 630

Lys Leu Ser Val Pro Asp Gly Phe Lys Val Ser Asn Ser Ser Ala
635 640 645

Arg Gly Trp Val Ile His Pro Leu Gly Leu Arg Ser Glu Phe Pro
650 655 660

Ile Trp Met Met Phe Ala Ser Ala Leu Pro Ala Leu Leu Val Phe
665 670 675

Ile Leu Ile Phe Leu Glu Ser Gln Ile Thr Thr Leu Ile Val Ser
680 685 690

Lys Pro Glu Arg Lys Met Val Lys Gly Ser Gly Phe His Leu Asp
695 700 705

Leu Leu Leu Val Val Gly Met Gly Gly Val Ala Ala Leu Phe Gly
710 715 720

Met Pro Trp Leu Ser Ala Thr Thr Val Arg Ser Val Thr His Ala
725 730 735

Asn Ala Leu Thr Val Met Gly Lys Ala Ser Thr Pro Gly Ala Ala
740 745 750

Ala Gln Ile Gln Glu Val Lys Glu Gln Arg Ile Ser Gly Leu Leu
755 760 765

Val Ala Val Leu Val Gly Leu Ser Ile Leu Met Glu Pro Ile Leu
770 775 780

Ser Arg Ile Pro Leu Ala Val Leu Phe Gly Ile Phe Leu Tyr Met
785 790 795

Gly Val Thr Ser Leu Ser Gly Ile Gln Leu Phe Asp Arg Ile Leu
800 805 810

Leu Leu Phe Lys Pro Pro Lys Tyr His Pro Asp Val Pro Tyr Val
815 820 825

Lys Arg Val Lys Thr Trp Arg Met His Leu Phe Thr Gly Ile Gln
830 835 840

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Ile Ile Cys Leu Ala Val Leu Trp Val Val Lys Ser Thr Pro Ala
                845                 850                 855

Ser Leu Ala Leu Pro Phe Val Leu Ile Leu Thr Val Pro Leu Arg
                860                 865                 870

Arg Val Leu Leu Pro Leu Ile Phe Arg Asn Val Glu Leu Gln Cys
                875                 880                 885

Leu Asp Ala Asp Asp Ala Lys Ala Thr Phe Asp Glu Glu Glu Gly
                890                 895                 900

Arg Asp Glu Tyr Asp Glu Val Ala Met Pro Val
                905                 910

<210> 91
<211> 387
<212> PRT
<213> Homo sapien

<400> 91
Met Val Ala Trp Val Val Ser Thr Gly Val Ala Ile Ala Cys Cys
  1               5                  10                  15

Ala Ala Val Tyr Tyr Leu Ala Glu Tyr Asn Leu Glu Phe Leu Lys
                 20                  25                  30

Thr His Ser Asn Pro Gly Ala Val Leu Leu Leu Pro Phe Val Val
                 35                  40                  45

Ser Cys Ile Asn Leu Ala Val Pro Cys Ile Tyr Ser Met Phe Arg
                 50                  55                  60

Leu Val Glu Arg Tyr Glu Met Pro Arg His Glu Val Tyr Val Leu
                 65                  70                  75

Leu Ile Arg Asn Ile Phe Leu Lys Ile Ser Ile Ile Gly Ile Leu
                 80                  85                  90

Cys Tyr Tyr Trp Leu Asn Thr Val Ala Leu Ser Gly Glu Glu Cys
                 95                 100                 105

Trp Glu Thr Leu Ile Gly Gln Asp Ile Tyr Arg Leu Leu Leu Met
                110                 115                 120

Asp Phe Val Phe Ser Leu Val Asn Ser Phe Leu Gly Glu Phe Leu
                125                 130                 135

Arg Arg Ile Ile Gly Met Gln Leu Ile Thr Ser Leu Gly Leu Gln
                140                 145                 150

Glu Phe Asp Ile Ala Arg Asn Val Leu Glu Leu Ile Tyr Ala Gln
                155                 160                 165

Thr Leu Val Trp Ile Gly Ile Phe Phe Cys Pro Leu Leu Pro Phe
                170                 175                 180

Ile Gln Met Ile Met Leu Phe Ile Met Phe Tyr Ser Lys Asn Ile
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                    185                 190                 195

Ser Leu Met Met Asn Phe Gln Pro Pro Ser Lys Ala Trp Arg Ala
                200                 205                 210

Ser Gln Met Met Thr Phe Phe Ile Phe Leu Leu Phe Phe Pro Ser
                215                 220                 225

Phe Thr Gly Val Leu Cys Thr Leu Ala Ile Thr Ile Trp Arg Leu
                230                 235                 240

Lys Pro Ser Ala Asp Cys Gly Pro Phe Arg Gly Leu Pro Leu Phe
                245                 250                 255

Ile His Ser Ile Tyr Ser Trp Ile Asp Thr Leu Ser Thr Arg Pro
                260                 265                 270

Gly Tyr Leu Trp Val Val Trp Ile Tyr Arg Asn Leu Ile Gly Ser
                275                 280                 285

Val His Phe Phe Phe Ile Leu Thr Leu Ile Val Leu Ile Ile Thr
                290                 295                 300

Tyr Leu Tyr Trp Gln Ile Thr Glu Gly Arg Lys Ile Met Ile Arg
                305                 310                 315

Leu Leu His Glu Gln Ile Ile Asn Glu Gly Lys Asp Lys Met Phe
                320                 325                 330

Leu Ile Glu Lys Leu Ile Lys Leu Gln Asp Met Glu Lys Lys Ala
                335                 340                 345

Asn Pro Ser Ser Leu Val Leu Glu Arg Arg Glu Val Glu Gln Gln
                350                 355                 360

Gly Phe Leu His Leu Gly Glu His Asp Gly Ser Leu Asp Leu Arg
                365                 370                 375

Ser Arg Arg Ser Val Gln Glu Gly Asn Pro Arg Ala
                380                 385

<210> 92
<211> 509
<212> PRT
<213> Homo sapien

<400> 92
Met Glu Arg Arg Arg Leu Trp Gly Ser Ile Gln Ser Arg Tyr Ile
1               5                   10                  15

Ser Met Ser Val Trp Thr Ser Pro Arg Arg Leu Val Glu Leu Ala
                20                  25                  30

Gly Gln Ser Leu Leu Lys Asp Glu Ala Leu Ala Ile Ala Ala Leu
                35                  40                  45

Glu Leu Leu Pro Arg Glu Leu Phe Pro Pro Leu Phe Met Ala Ala
                50                  55                  60
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Phe Asp Gly Arg His Ser Gln Thr Leu Lys Ala Met Val Gln Ala
                65                  70                  75

Trp Pro Phe Thr Cys Leu Pro Leu Gly Val Leu Met Lys Gly Gln
                80                  85                  90

His Leu His Leu Glu Thr Phe Lys Ala Val Leu Asp Gly Leu Asp
                95                  100                 105

Val Leu Leu Ala Gln Glu Val Arg Pro Arg Arg Trp Lys Leu Gln
                110                 115                 120

Val Leu Asp Leu Arg Lys Asn Ser His Gln Asp Phe Trp Thr Val
                125                 130                 135

Trp Ser Gly Asn Arg Ala Ser Leu Tyr Ser Phe Pro Glu Pro Glu
                140                 145                 150

Ala Ala Gln Pro Met Thr Lys Lys Arg Lys Val Asp Gly Leu Ser
                155                 160                 165

Thr Glu Ala Glu Gln Pro Phe Ile Pro Val Glu Val Leu Val Asp
                170                 175                 180

Leu Phe Leu Lys Glu Gly Ala Cys Asp Glu Leu Phe Ser Tyr Leu
                185                 190                 195

Ile Glu Lys Val Lys Arg Lys Lys Asn Val Leu Arg Leu Cys Cys
                200                 205                 210

Lys Lys Leu Lys Ile Phe Ala Met Pro Met Gln Asp Ile Lys Met
                215                 220                 225

Ile Leu Lys Met Val Gln Leu Asp Ser Ile Glu Asp Leu Glu Val
                230                 235                 240

Thr Cys Thr Trp Lys Leu Pro Thr Leu Ala Lys Phe Ser Pro Tyr
                245                 250                 255

Leu Gly Gln Met Ile Asn Leu Arg Arg Leu Leu Leu Ser His Ile
                260                 265                 270

His Ala Ser Ser Tyr Ile Ser Pro Glu Lys Glu Glu Gln Tyr Ile
                275                 280                 285

Ala Gln Phe Thr Ser Gln Phe Leu Ser Leu Gln Cys Leu Gln Ala
                290                 295                 300

Leu Tyr Val Asp Ser Leu Phe Phe Leu Arg Gly Arg Leu Asp Gln
                305                 310                 315

Leu Leu Arg His Val Met Asn Pro Leu Glu Thr Leu Ser Ile Thr
                320                 325                 330

Asn Cys Arg Leu Ser Glu Gly Asp Val Met His Leu Ser Gln Ser
                335                 340                 345

Pro Ser Val Ser Gln Leu Ser Val Leu Ser Leu Ser Gly Val Met
```

```
                350                 355                 360

Leu Thr Asp Val Ser Pro Glu Pro Leu Gln Ala Leu Leu Glu Arg
                365                 370                 375

Ala Ser Ala Thr Leu Gln Asp Leu Val Phe Asp Glu Cys Gly Ile
                380                 385                 390

Thr Asp Asp Gln Leu Leu Ala Leu Leu Pro Ser Leu Ser His Cys
                395                 400                 405

Ser Gln Leu Thr Thr Leu Ser Phe Tyr Gly Asn Ser Ile Ser Ile
                410                 415                 420

Ser Ala Leu Gln Ser Leu Leu Gln His Leu Ile Gly Leu Ser Asn
                425                 430                 435

Leu Thr His Val Leu Tyr Pro Val Pro Leu Glu Ser Tyr Glu Asp
                440                 445                 450

Ile His Gly Thr Leu His Leu Glu Arg Leu Ala Tyr Leu His Ala
                455                 460                 465

Arg Leu Arg Glu Leu Leu Cys Glu Leu Gly Arg Pro Ser Met Val
                470                 475                 480

Trp Leu Ser Ala Asn Pro Cys Pro His Cys Gly Asp Arg Thr Phe
                485                 490                 495

Tyr Asp Pro Glu Pro Ile Leu Cys Pro Cys Phe Met Pro Asn
                500                 505

<210> 93
<211> 943
<212> PRT
<213> Homo sapien

<400> 93
Met Thr Gln Arg Ser Ile Ala Gly Pro Ile Cys Asn Leu Lys Phe
 1               5                  10                  15

Val Thr Leu Leu Val Ala Leu Ser Ser Glu Leu Pro Phe Leu Gly
                20                  25                  30

Ala Gly Val Gln Leu Gln Asp Asn Gly Tyr Asn Gly Leu Leu Ile
                35                  40                  45

Ala Ile Asn Pro Gln Val Pro Glu Asn Gln Asn Leu Ile Ser Asn
                50                  55                  60

Ile Lys Glu Met Ile Thr Glu Ala Ser Phe Tyr Leu Phe Asn Ala
                65                  70                  75

Thr Lys Arg Arg Val Phe Phe Arg Asn Ile Lys Ile Leu Ile Pro
                80                  85                  90

Ala Thr Trp Lys Ala Asn Asn Asn Ser Lys Ile Lys Gln Glu Ser
                95                  100                 105
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Tyr Glu Lys Ala Asn Val Ile Val Thr Asp Trp Tyr Gly Ala His
                110                 115                 120

Gly Asp Asp Pro Tyr Thr Leu Gln Tyr Arg Gly Cys Gly Lys Glu
                125                 130                 135

Gly Lys Tyr Ile His Phe Thr Pro Asn Phe Leu Leu Asn Asp Asn
                140                 145                 150

Leu Thr Ala Gly Tyr Gly Ser Arg Gly Arg Val Phe Val His Glu
                155                 160                 165

Trp Ala His Leu Arg Trp Gly Val Phe Asp Glu Tyr Ile Asn Asp
                170                 175                 180

Lys Pro Phe Tyr Ile Asn Gly Gln Asn Gln Ile Lys Val Thr Arg
                185                 190                 195

Cys Ser Ser Asp Ile Thr Gly Ile Phe Val Cys Glu Lys Gly Pro
                200                 205                 210

Cys Pro Gln Glu Asn Cys Ile Ile Ser Lys Leu Phe Lys Glu Gly
                215                 220                 225

Cys Thr Phe Ile Tyr Asn Ser Thr Gln Asn Ala Thr Ala Ser Ile
                230                 235                 240

Met Phe Met Gln Ser Leu Ser Ser Val Val Glu Phe Cys Asn Ala
                245                 250                 255

Ser Thr His Asn Gln Glu Ala Pro Asn Leu Gln Asn Gln Met Cys
                260                 265                 270

Ser Leu Arg Ser Ala Trp Asp Val Ile Thr Asp Ser Ala Asp Phe
                275                 280                 285

His His Ser Phe Pro Met Asn Gly Thr Glu Leu Pro Pro Pro Pro
                290                 295                 300

Thr Phe Ser Leu Val Gln Ala Gly Asp Lys Val Val Cys Leu Val
                305                 310                 315

Leu Asp Val Ser Ser Lys Met Ala Glu Ala Asp Arg Leu Leu Gln
                320                 325                 330

Leu Gln Gln Ala Ala Glu Phe Tyr Leu Met Gln Ile Val Glu Ile
                335                 340                 345

His Thr Phe Val Gly Ile Ala Ser Phe Asp Ser Lys Gly Glu Ile
                350                 355                 360

Arg Ala Gln Leu His Gln Ile Asn Ser Asn Asp Asp Arg Lys Leu
                365                 370                 375

Leu Val Ser Tyr Leu Pro Thr Thr Val Ser Ala Lys Thr Asp Ile
                380                 385                 390

Ser Ile Cys Ser Gly Leu Lys Lys Gly Phe Glu Val Val Glu Lys
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                395                     400                     405

Leu Asn Gly Lys Ala Tyr Gly Ser Val Met Ile Leu Val Thr Ser
                410                     415                     420

Gly Asp Asp Lys Leu Leu Gly Asn Cys Leu Pro Thr Val Leu Ser
                425                     430                     435

Ser Gly Ser Thr Ile His Ser Ile Ala Leu Gly Ser Ser Ala Ala
                440                     445                     450

Pro Asn Leu Glu Glu Leu Ser Arg Leu Thr Gly Gly Leu Lys Phe
                455                     460                     465

Phe Val Pro Asp Ile Ser Asn Ser Asn Ser Met Ile Asp Ala Phe
                470                     475                     480

Ser Arg Ile Ser Ser Gly Thr Gly Asp Ile Phe Gln Gln His Ile
                485                     490                     495

Gln Leu Glu Ser Thr Gly Glu Asn Val Lys Pro His His Gln Leu
                500                     505                     510

Lys Asn Thr Val Thr Val Asp Asn Thr Val Gly Asn Asp Thr Met
                515                     520                     525

Phe Leu Val Thr Trp Gln Ala Ser Gly Pro Pro Glu Ile Ile Leu
                530                     535                     540

Phe Asp Pro Asp Gly Arg Lys Tyr Tyr Thr Asn Asn Phe Ile Thr
                545                     550                     555

Asn Leu Thr Phe Arg Thr Ala Ser Leu Trp Ile Pro Gly Thr Ala
                560                     565                     570

Lys Pro Gly His Trp Thr Tyr Thr Leu Asn Asn Thr His His Ser
                575                     580                     585

Leu Gln Ala Leu Lys Val Thr Val Thr Ser Arg Ala Ser Asn Ser
                590                     595                     600

Ala Val Pro Pro Ala Thr Val Glu Ala Phe Val Glu Arg Asp Ser
                605                     610                     615

Leu His Phe Pro His Pro Val Met Ile Tyr Ala Asn Val Lys Gln
                620                     625                     630

Gly Phe Tyr Pro Ile Leu Asn Ala Thr Val Thr Ala Thr Val Glu
                635                     640                     645

Pro Glu Thr Gly Asp Pro Val Thr Leu Arg Leu Leu Asp Asp Gly
                650                     655                     660

Ala Gly Ala Asp Val Ile Lys Asn Asp Gly Ile Tyr Ser Arg Tyr
                665                     670                     675

Phe Phe Ser Phe Ala Ala Asn Gly Arg Tyr Ser Leu Lys Val His
                680                     685                     690
```

Val Asn His Ser Pro Ser Ile Ser Thr Pro Ala His Ser Ile Pro
695 700 705

Gly Ser His Ala Met Tyr Val Pro Gly Tyr Thr Ala Asn Gly Asn
710 715 720

Ile Gln Met Asn Ala Pro Arg Lys Ser Val Gly Arg Asn Glu Glu
725 730 735

Glu Arg Lys Trp Gly Phe Ser Arg Val Ser Ser Gly Gly Ser Phe
740 745 750

Ser Val Leu Gly Val Pro Ala Gly Pro His Pro Asp Val Phe Pro
755 760 765

Pro Cys Lys Ile Ile Asp Leu Glu Ala Val Lys Val Glu Glu Glu
770 775 780

Leu Thr Leu Ser Trp Thr Ala Pro Gly Glu Asp Phe Asp Gln Gly
785 790 795

Gln Ala Thr Ser Tyr Glu Ile Arg Met Ser Lys Ser Leu Gln Asn
800 805 810

Ile Gln Asp Asp Phe Asn Asn Ala Ile Leu Val Asn Thr Ser Lys
815 820 825

Arg Asn Pro Gln Gln Ala Gly Ile Arg Glu Ile Phe Thr Phe Ser
830 835 840

Pro Gln Ile Ser Thr Asn Gly Pro Glu His Gln Pro Asn Gly Glu
845 850 855

Thr His Glu Ser His Arg Ile Tyr Val Ala Ile Arg Ala Met Asp
860 865 870

Arg Asn Ser Leu Gln Ser Ala Val Ser Asn Ile Ala Gln Ala Pro
875 880 885

Leu Phe Ile Pro Pro Asn Ser Asp Pro Val Pro Ala Arg Asp Tyr
890 895 900

Leu Ile Leu Lys Gly Val Leu Thr Ala Met Gly Leu Ile Gly Ile
905 910 915

Ile Cys Leu Ile Ile Val Val Thr His His Thr Leu Ser Arg Lys
920 925 930

Lys Arg Ala Asp Lys Lys Glu Asn Gly Thr Lys Leu Leu
935 940

<210> 94
<211> 492
<212> PRT
<213> Homo sapien

<400> 94
Met Ala Leu Asn Ser Gly Ser Pro Pro Ala Ile Gly Pro Tyr Tyr

```
1               5                   10                  15

Glu Asn His Gly Tyr Gln Pro Glu Asn Pro Tyr Pro Ala Gln Pro
                20                  25                  30

Thr Val Val Pro Thr Val Tyr Glu Val His Pro Ala Gln Tyr Tyr
                35                  40                  45

Pro Ser Pro Val Pro Gln Tyr Ala Pro Arg Val Leu Thr Gln Ala
                50                  55                  60

Ser Asn Pro Val Val Cys Thr Gln Pro Lys Ser Pro Ser Gly Thr
                65                  70                  75

Val Cys Thr Ser Lys Thr Lys Lys Ala Leu Cys Ile Thr Leu Thr
                80                  85                  90

Leu Gly Thr Phe Leu Val Gly Ala Ala Leu Ala Ala Gly Leu Leu
                95                  100                 105

Trp Lys Phe Met Gly Ser Lys Cys Ser Asn Ser Gly Ile Glu Cys
                110                 115                 120

Asp Ser Ser Gly Thr Cys Ile Asn Pro Ser Asn Trp Cys Asp Gly
                125                 130                 135

Val Ser His Cys Pro Gly Gly Glu Asp Glu Asn Arg Cys Val Arg
                140                 145                 150

Leu Tyr Gly Pro Asn Phe Ile Leu Gln Met Tyr Ser Ser Gln Arg
                155                 160                 165

Lys Ser Trp His Pro Val Cys Gln Asp Asp Trp Asn Glu Asn Tyr
                170                 175                 180

Gly Arg Ala Ala Cys Arg Asp Met Gly Tyr Lys Asn Asn Phe Tyr
                185                 190                 195

Ser Ser Gln Gly Ile Val Asp Asp Ser Gly Ser Thr Ser Phe Met
                200                 205                 210

Lys Leu Asn Thr Ser Ala Gly Asn Val Asp Ile Tyr Lys Lys Leu
                215                 220                 225

Tyr His Ser Asp Ala Cys Ser Ser Lys Ala Val Val Ser Leu Arg
                230                 235                 240

Cys Leu Ala Cys Gly Val Asn Leu Asn Ser Ser Arg Gln Ser Arg
                245                 250                 255

Ile Val Gly Gly Glu Ser Ala Leu Pro Gly Ala Trp Pro Trp Gln
                260                 265                 270

Val Ser Leu His Val Gln Asn Val His Val Cys Gly Gly Ser Ile
                275                 280                 285

Ile Thr Pro Glu Trp Ile Val Thr Ala Ala His Cys Val Glu Lys
                290                 295                 300
```

Pro Leu Asn Asn Pro Trp His Trp Thr Ala Phe Ala Gly Ile Leu
305 310 315

Arg Gln Ser Phe Met Phe Tyr Gly Ala Gly Tyr Gln Val Gln Lys
320 325 330

Val Ile Ser His Pro Asn Tyr Asp Ser Lys Thr Lys Asn Asn Asp
335 340 345

Ile Ala Leu Met Lys Leu Gln Lys Pro Leu Thr Phe Asn Asp Leu
350 355 360

Val Lys Pro Val Cys Leu Pro Asn Pro Gly Met Met Leu Gln Pro
365 370 375

Glu Gln Leu Cys Trp Ile Ser Gly Trp Gly Ala Thr Glu Glu Lys
380 385 390

Gly Lys Thr Ser Glu Val Leu Asn Ala Ala Lys Val Leu Leu Ile
395 400 405

Glu Thr Gln Arg Cys Asn Ser Arg Tyr Val Tyr Asp Asn Leu Ile
410 415 420

Thr Pro Ala Met Ile Cys Ala Gly Phe Leu Gln Gly Asn Val Asp
425 430 435

Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Thr Ser Asn Asn
440 445 450

Asn Ile Trp Trp Leu Ile Gly Asp Thr Ser Trp Gly Ser Gly Cys
455 460 465

Ala Lys Ala Tyr Arg Pro Gly Val Tyr Gly Asn Val Met Val Phe
470 475 480

Thr Asp Trp Ile Tyr Arg Gln Met Lys Ala Asn Gly
485 490

<210> 95
<211> 253
<212> PRT
<213> Homo sapien

<400> 95
Met Ala Arg Ser Leu Leu Leu Pro Leu Gln Ile Leu Leu Leu Ser
1 5 10 15

Leu Ala Leu Glu Thr Ala Gly Glu Glu Ala Gln Gly Asp Lys Ile
20 25 30

Ile Asp Gly Ala Pro Cys Ala Arg Gly Ser His Pro Trp Gln Val
35 40 45

Ala Leu Leu Ser Gly Asn Gln Leu His Cys Gly Gly Val Leu Val
50 55 60

Asn Glu Arg Trp Val Leu Thr Ala Ala His Cys Lys Met Asn Glu

```
                65                  70                  75

Tyr Thr Val His Leu Gly Ser Asp Thr Leu Gly Asp Arg Arg Ala
                80                  85                  90

Gln Arg Ile Lys Ala Ser Lys Ser Phe Arg His Pro Gly Tyr Ser
                95                  100                 105

Thr Gln Thr His Val Asn Asp Leu Met Leu Val Lys Leu Asn Ser
                110                 115                 120

Gln Ala Arg Leu Ser Ser Met Val Lys Lys Val Arg Leu Pro Ser
                125                 130                 135

Arg Cys Glu Pro Pro Gly Thr Thr Cys Thr Val Ser Gly Trp Gly
                140                 145                 150

Thr Thr Thr Ser Pro Asp Val Thr Phe Pro Ser Asp Leu Met Cys
                155                 160                 165

Val Asp Val Lys Leu Ile Ser Pro Gln Asp Cys Thr Lys Val Tyr
                170                 175                 180

Lys Asp Leu Leu Glu Asn Ser Met Leu Cys Ala Gly Ile Pro Asp
                185                 190                 195

Ser Lys Lys Asn Ala Cys Asn Gly Asp Ser Gly Gly Pro Leu Val
                200                 205                 210

Cys Arg Gly Thr Leu Gln Gly Leu Val Ser Trp Gly Thr Phe Pro
                215                 220                 225

Cys Gly Gln Pro Asn Asp Pro Gly Val Tyr Thr Gln Val Cys Lys
                230                 235                 240

Phe Thr Lys Trp Ile Asn Asp Thr Met Lys Lys His Arg
                245                 250

<210> 96
<211> 339
<212> PRT
<213> Homo sapien

<400> 96
Met Glu Ser Arg Lys Asp Ile Thr Asn Gln Glu Glu Leu Trp Lys
1               5                   10                  15

Met Lys Pro Arg Arg Asn Leu Glu Glu Asp Asp Tyr Leu His Lys
                20                  25                  30

Asp Thr Gly Glu Thr Ser Met Leu Lys Arg Pro Val Leu Leu His
                35                  40                  45

Leu His Gln Thr Ala His Ala Asp Glu Phe Asp Cys Pro Ser Glu
                50                  55                  60

Leu Gln His Thr Gln Glu Leu Phe Pro Gln Trp His Leu Pro Ile
                65                  70                  75
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```
Lys Ile Ala Ala Ile Ile Ala Ser Leu Thr Phe Leu Tyr Thr Leu
                 80                  85                  90

Leu Arg Glu Val Ile His Pro Leu Ala Thr Ser His Gln Gln Tyr
                 95                 100                 105

Phe Tyr Lys Ile Pro Ile Leu Val Ile Asn Lys Val Leu Pro Met
                110                 115                 120

Val Ser Ile Thr Leu Leu Ala Leu Val Tyr Leu Pro Gly Val Ile
                125                 130                 135

Ala Ala Ile Val Gln Leu His Asn Gly Thr Lys Tyr Lys Lys Phe
                140                 145                 150

Pro His Trp Leu Asp Lys Trp Met Leu Thr Arg Lys Gln Phe Gly
                155                 160                 165

Leu Leu Ser Phe Phe Phe Ala Val Leu His Ala Ile Tyr Ser Leu
                170                 175                 180

Ser Tyr Pro Met Arg Arg Ser Tyr Arg Tyr Lys Leu Leu Asn Trp
                185                 190                 195

Ala Tyr Gln Gln Val Gln Gln Asn Lys Glu Asp Ala Trp Ile Glu
                200                 205                 210

His Asp Val Trp Arg Met Glu Ile Tyr Val Ser Leu Gly Ile Val
                215                 220                 225

Gly Leu Ala Ile Leu Ala Leu Leu Ala Val Thr Ser Ile Pro Ser
                230                 235                 240

Val Ser Asp Ser Leu Thr Trp Arg Glu Phe His Tyr Ile Gln Ser
                245                 250                 255

Lys Leu Gly Ile Val Ser Leu Leu Leu Gly Thr Ile His Ala Leu
                260                 265                 270

Ile Phe Ala Trp Asn Lys Trp Ile Asp Ile Lys Gln Phe Val Trp
                275                 280                 285

Tyr Thr Pro Pro Thr Phe Met Ile Ala Val Phe Leu Pro Ile Val
                290                 295                 300

Val Leu Ile Phe Lys Ser Ile Leu Phe Leu Pro Cys Leu Arg Lys
                305                 310                 315

Lys Ile Leu Lys Ile Arg His Gly Trp Glu Asp Val Thr Lys Ile
                320                 325                 330

Asn Lys Thr Glu Ile Cys Ser Gln Leu
                335
```

<210> 97
<211> 420
<212> PRT
<213> Homo sapien

```
<400> 97
Met Asp Ser Ser Pro Ser Leu Pro Leu Ile Arg Thr Pro Glu Ser
1               5                   10                  15

Ser Leu His Glu Ala Leu Asp Gln Cys Met Thr Ala Leu Asp Leu
                20                  25                  30

Phe Leu Thr Asn Gln Phe Ser Glu Ala Leu Ser Tyr Leu Lys Pro
                35                  40                  45

Arg Thr Lys Glu Ser Met Tyr His Ser Leu Thr Tyr Ala Thr Ile
                50                  55                  60

Leu Glu Met Gln Ala Met Met Thr Phe Asp Pro Gln Asp Ile Leu
                65                  70                  75

Leu Ala Gly Asn Met Met Lys Glu Ala Gln Met Leu Cys Gln Arg
                80                  85                  90

His Arg Arg Lys Ser Ser Val Thr Asp Ser Phe Ser Ser Leu Val
                95                  100                 105

Asn Arg Pro Thr Leu Gly Gln Phe Thr Glu Glu Glu Ile His Ala
                110                 115                 120

Glu Val Cys Tyr Ala Glu Cys Leu Leu Gln Arg Ala Ala Leu Thr
                125                 130                 135

Phe Leu Gln Gly Ser Ser His Gly Gly Ala Val Arg Pro Arg Ala
                140                 145                 150

Leu His Asp Pro Ser His Ala Cys Ser Cys Pro Pro Gly Pro Gly
                155                 160                 165

Arg Gln His Leu Phe Leu Leu Gln Asp Glu Asn Met Val Ser Phe
                170                 175                 180

Ile Lys Gly Gly Ile Lys Val Arg Asn Ser Tyr Gln Thr Tyr Lys
                185                 190                 195

Glu Leu Asp Ser Leu Val Gln Ser Ser Gln Tyr Cys Lys Gly Glu
                200                 205                 210

Asn His Pro His Phe Glu Gly Gly Val Lys Leu Gly Val Gly Ala
                215                 220                 225

Phe Asn Leu Thr Leu Ser Met Leu Pro Thr Arg Ile Leu Arg Leu
                230                 235                 240

Leu Glu Phe Val Gly Phe Ser Gly Asn Lys Asp Tyr Gly Leu Leu
                245                 250                 255

Gln Leu Glu Glu Gly Ala Ser Gly His Ser Phe Arg Ser Val Leu
                260                 265                 270

Cys Val Met Leu Leu Leu Cys Tyr His Thr Phe Leu Thr Phe Val
                275                 280                 285
```

```
Leu Gly Thr Gly Asn Val Asn Ile Glu Glu Ala Glu Lys Leu Leu
                290                 295                 300

Lys Pro Tyr Leu Asn Arg Tyr Pro Lys Gly Ala Ile Phe Leu Phe
                305                 310                 315

Phe Ala Gly Arg Ile Glu Val Ile Lys Gly Asn Ile Asp Ala Val
                320                 325                 330

Ser Asp Gly Gly Pro Gly Arg Gly Trp Gly Ser Leu Gly Val Ser
                335                 340                 345

Gln Thr Ser Arg Lys Ser Gly Thr Cys Asp Ile Leu Arg Asp Arg
                350                 355                 360

Ile Asp Trp Gly Arg Gly Gly Gly Gln Glu Arg Thr Asn Gln Arg
                365                 370                 375

Ala Gly Ala Gly Glu Ala Leu Leu Ala Glu Gln Pro Gly Lys Thr
                380                 385                 390

Arg Glu Glu Glu Ala Phe Val Val Pro Gly Ile Leu Thr Gly Arg
                395                 400                 405

Tyr Arg Thr Ala Ala Leu Gln Trp Arg Glu Val Glu Gly Gly Ala
                410                 415                 420

<210> 98
<211> 514
<212> PRT
<213> Homo sapien

<400> 98
Met Ala Asp Ala Glu Val Ile Ile Leu Pro Lys Lys His Lys Lys
1               5                   10                  15

Lys Lys Glu Arg Lys Ser Leu Pro Glu Glu Asp Val Ala Glu Ile
                20                  25                  30

Gln His Ala Glu Glu Phe Leu Ile Lys Pro Glu Ser Lys Val Ala
                35                  40                  45

Lys Leu Asp Thr Ser Gln Trp Pro Leu Leu Leu Lys Asn Phe Asp
                50                  55                  60

Lys Leu Asn Val Arg Thr Thr His Tyr Thr Pro Leu Ala Cys Gly
                65                  70                  75

Ser Asn Pro Leu Lys Arg Glu Ile Gly Asp Tyr Ile Arg Thr Gly
                80                  85                  90

Phe Ile Asn Leu Asp Lys Pro Ser Asn Pro Ser Ser His Glu Val
                95                  100                 105

Val Ala Trp Ile Arg Arg Ile Leu Arg Val Glu Lys Thr Gly His
                110                 115                 120

Ser Gly Thr Leu Asp Pro Lys Val Thr Gly Cys Leu Ile Val Cys
```

125 130 135

Ile Glu Arg Ala Thr Arg Leu Val Lys Ser Gln Gln Ser Ala Gly
140 145 150

Lys Glu Tyr Val Gly Ile Val Arg Leu His Asn Ala Ile Glu Gly
155 160 165

Gly Thr Gln Leu Ser Arg Ala Leu Glu Thr Leu Thr Gly Ala Leu
170 175 180

Phe Gln Arg Pro Pro Leu Ile Ala Ala Val Lys Arg Gln Leu Arg
185 190 195

Val Arg Thr Ile Tyr Glu Ser Lys Met Ile Glu Tyr Asp Pro Glu
200 205 210

Arg Arg Leu Gly Ile Phe Trp Val Ser Cys Glu Ala Gly Thr Tyr
215 220 225

Ile Arg Thr Leu Cys Val His Leu Gly Leu Leu Leu Gly Val Gly
230 235 240

Gly Gln Met Gln Glu Leu Arg Arg Val Arg Ser Gly Val Met Ser
245 250 255

Glu Lys Asp His Met Val Thr Met His Asp Val Leu Asp Ala Gln
260 265 270

Trp Leu Tyr Asp Asn His Lys Asp Glu Ser Tyr Leu Arg Arg Val
275 280 285

Val Tyr Pro Leu Glu Lys Leu Leu Thr Ser His Lys Arg Leu Val
290 295 300

Met Lys Asp Ser Ala Val Asn Ala Ile Cys Tyr Gly Ala Lys Ile
305 310 315

Met Leu Pro Gly Val Leu Arg Tyr Glu Asp Gly Ile Glu Val Asn
320 325 330

Gln Glu Ile Val Val Ile Thr Thr Lys Gly Glu Ala Ile Cys Met
335 340 345

Ala Ile Ala Leu Met Thr Thr Ala Val Ile Ser Thr Cys Asp His
350 355 360

Gly Ile Val Ala Lys Ile Lys Arg Val Ile Met Glu Arg Asp Thr
365 370 375

Tyr Pro Arg Lys Trp Gly Leu Gly Pro Lys Ala Ser Gln Lys Lys
380 385 390

Leu Met Ile Lys Gln Gly Leu Leu Asp Lys His Gly Lys Pro Thr
395 400 405

Asp Ser Thr Pro Ala Thr Trp Lys Gln Glu Tyr Val Asp Tyr Ser
410 415 420

```
Glu Ser Ala Lys Lys Glu Val Val Ala Glu Val Val Lys Ala Pro
                425                 430                 435

Gln Val Val Ala Glu Ala Ala Lys Thr Ala Lys Arg Lys Arg Glu
                440                 445                 450

Ser Glu Ser Glu Ser Asp Glu Thr Pro Pro Ala Ala Pro Gln Leu
                455                 460                 465

Ile Lys Lys Glu Lys Lys Lys Ser Lys Lys Asp Lys Lys Ala Lys
                470                 475                 480

Ala Gly Leu Glu Ser Gly Ala Glu Pro Gly Asp Gly Asp Ser Asp
                485                 490                 495

Thr Thr Lys Lys Lys Lys Lys Lys Lys Lys Ala Lys Glu Val Glu
                500                 505                 510

Leu Val Ser Glu


<210> 99
<211> 313
<212> PRT
<213> Homo sapien

<400> 99
 Met Ala Leu Arg Ile Cys Val Thr Tyr Thr Pro Ala Leu Pro Ile
   1               5                  10                  15

 Gly Leu Cys Thr Arg Cys Cys Leu Cys Leu Glu Gln Ser Pro Ser
                  20                  25                  30

 Trp Cys His Cys Leu Arg Gly Val Ser Phe Leu Thr Phe His Leu
                  35                  40                  45

 His Gln Ser Val Pro Leu Gly Asp Arg Asp Ser Leu Leu Met Phe
                  50                  55                  60

 Thr Arg Gln Ala Gly His Phe Val Glu Gly Ser Lys Ala Gly Arg
                  65                  70                  75

 Ser Arg Gly Arg Leu Cys Leu Ser Gln Ala Leu Arg Val Ala Val
                  80                  85                  90

 Arg Gly Ala Phe Val Ser Leu Trp Phe Ala Ala Gly Ala Gly Asp
                  95                 100                 105

 Arg Glu Arg Asn Lys Gly Asp Lys Gly Ala Gln Thr Gly Ala Gly
                 110                 115                 120

 Leu Ser Gln Glu Ala Glu Asp Val Asp Val Ser Arg Ala Arg Arg
                 125                 130                 135

 Val Thr Asp Ala Pro Gln Gly Thr Leu Cys Gly Thr Gly Asn Arg
                 140                 145                 150

 Asn Ser Gly Ser Gln Ser Ala Arg Ala Val Gly Val Ala His Leu
```

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                155                 160                 165

Gly Glu Ala Phe Arg Val Gly Val Glu Gln Ala Ile Ser Ser Cys
                170                 175                 180

Pro Glu Glu Val His Gly Arg His Gly Leu Ser Met Glu Ile Met
                185                 190                 195

Trp Ala Arg Met Asp Val Ala Leu Arg Ser Pro Gly Arg Gly Leu
                200                 205                 210

Leu Ala Gly Ala Gly Ala Leu Cys Val Thr Leu Ala Glu Ser Ser
                215                 220                 225

Cys Pro Asp Tyr Glu Arg Gly Arg Arg Ala Cys Leu Thr Leu His
                230                 235                 240

Arg His Pro Thr Pro His Cys Ser Thr Trp Gly Leu Pro Leu Arg
                245                 250                 255

Val Ala Gly Ser Trp Leu Thr Val Val Thr Val Glu Ala Leu Gly
                260                 265                 270

Gly Trp Arg Met Gly Val Arg Arg Thr Gly Gln Val Gly Pro Thr
                275                 280                 285

Met His Pro Pro Pro Val Ser Gly Ala Ser Pro Leu Leu Leu His
                290                 295                 300

His Leu Leu Leu Leu Leu Leu Ile Ile Ile Leu Thr Cys
                305                 310

<210> 100
<211> 132
<212> PRT
<213> Homo sapien

<400> 100
Met Gly Ile Val Ala Asn Phe Gln Glu Leu Ala Val Pro Val Val
  1               5                  10                  15

His Asp Gly Gly Ala Leu Leu Ala Phe Val Cys Gly Val Val Tyr
                 20                  25                  30

Thr Leu Leu Gln Ser Ile Ile Ser Tyr Lys Ser Cys Pro Gln Trp
                 35                  40                  45

Asn Ser Leu Ser Thr Cys His Ile Arg Met Val Ile Ser Ala Val
                 50                  55                  60

Ser Cys Ala Ala Val Ile Pro Met Ile Val Cys Ala Ser Leu Ile
                 65                  70                  75

Ser Ile Thr Lys Leu Glu Trp Asn Pro Arg Glu Lys Asp Tyr Val
                 80                  85                  90

Tyr His Val Val Ser Ala Ile Cys Glu Trp Thr Val Ala Phe Gly
                 95                 100                 105
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Phe Ile Phe Tyr Phe Leu Thr Phe Ile Gln Asp Phe Gln Ser Val
110 115 120

Thr Leu Arg Ile Ser Thr Glu Ile Asn Gly Asp Ile
125 130

<210> 101
<211> 416
<212> PRT
<213> Homo sapien

<400> 101
Met Pro Arg Gln Leu Ser Ala Ala Ala Ala Leu Phe Ala Ser Leu
1 5 10 15

Ala Val Ile Leu His Asp Gly Ser Gln Met Arg Ala Lys Ala Phe
20 25 30

Pro Glu Thr Arg Asp Tyr Ser Gln Pro Thr Ala Ala Ala Thr Val
35 40 45

Gln Asp Ile Lys Lys Pro Val Gln Gln Pro Ala Lys Gln Ala Pro
50 55 60

His Gln Thr Leu Ala Ala Arg Phe Met Asp Gly His Ile Thr Phe
65 70 75

Gln Thr Ala Ala Thr Val Lys Ile Pro Thr Thr Thr Pro Ala Thr
80 85 90

Thr Lys Asn Thr Ala Thr Thr Ser Pro Ile Thr Tyr Thr Leu Val
95 100 105

Thr Thr Gln Ala Thr Pro Asn Asn Ser His Thr Ala Pro Pro Val
110 115 120

Thr Glu Val Thr Val Gly Pro Ser Leu Ala Pro Tyr Ser Leu Pro
125 130 135

Pro Thr Ile Thr Pro Pro Ala His Thr Ala Gly Thr Ser Ser Ser
140 145 150

Thr Val Ser His Thr Thr Gly Asn Thr Thr Gln Pro Ser Asn Gln
155 160 165

Thr Thr Leu Pro Ala Thr Leu Ser Ile Ala Leu His Lys Ser Thr
170 175 180

Thr Gly Gln Lys Pro Asp Gln Pro Thr His Ala Pro Gly Thr Thr
185 190 195

Ala Ala Ala His Asn Thr Thr Arg Thr Ala Ala Pro Ala Ser Thr
200 205 210

Val Pro Gly Pro Thr Leu Ala Pro Gln Pro Ser Ser Val Lys Thr
215 220 225

Gly Ile Tyr Gln Val Leu Asn Gly Ser Arg Leu Cys Ile Lys Ala

```
                    230                     235                     240

Glu Met Gly Ile Gln Leu Ile Val Gln Asp Lys Glu Ser Val Phe
                245                 250                 255

Ser Pro Arg Arg Tyr Phe Asn Ile Asp Pro Asn Ala Thr Gln Ala
                260                 265                 270

Ser Gly Asn Cys Gly Thr Arg Lys Ser Asn Leu Leu Leu Asn Phe
                275                 280                 285

Gln Gly Gly Phe Val Asn Leu Thr Phe Thr Lys Asp Glu Glu Ser
                290                 295                 300

Tyr Tyr Ile Ser Glu Val Gly Ala Tyr Leu Thr Val Ser Asp Pro
                305                 310                 315

Glu Thr Val Tyr Gln Gly Ile Lys His Ala Val Val Met Phe Gln
                320                 325                 330

Thr Ala Val Gly His Ser Phe Lys Cys Val Ser Glu Gln Ser Leu
                335                 340                 345

Gln Leu Ser Ala His Leu Gln Val Lys Thr Thr Asp Val Gln Leu
                350                 355                 360

Gln Ala Phe Asp Phe Glu Asp Asp His Phe Gly Asn Val Asp Glu
                365                 370                 375

Cys Ser Ser Asp Tyr Thr Ile Val Leu Pro Val Ile Gly Ala Ile
                380                 385                 390

Val Val Gly Leu Cys Leu Met Gly Met Gly Val Tyr Lys Ile Arg
                395                 400                 405

Leu Arg Cys Gln Ser Ser Gly Tyr Gln Arg Ile
                410                 415

<210> 102
<211> 134
<212> PRT
<213> Homo sapien

<400> 102
Met Thr Glu Glu Pro Ile Lys Glu Ile Leu Gly Ala Pro Lys Ala
 1               5                  10                  15

His Met Ala Ala Thr Met Glu Lys Ser Pro Lys Ser Glu Val Val
                20                  25                  30

Ile Thr Thr Val Pro Leu Val Ser Glu Ile Gln Leu Met Ala Ala
                35                  40                  45

Thr Gly Gly Thr Glu Leu Ser Cys Tyr Arg Cys Ile Ile Pro Phe
                50                  55                  60

Ala Val Val Val Phe Ile Ala Gly Ile Val Val Thr Ala Val Ala
                65                  70                  75
```

Tyr Ser Phe Asn Ser His Gly Ser Ile Ile Ser Ile Phe Gly Leu
80 85 90

Val Val Leu Ser Ser Gly Leu Phe Leu Leu Ala Ser Ser Ala Leu
95 100 105

Cys Trp Lys Val Arg Gln Arg Ser Lys Lys Ala Lys Arg Arg Glu
110 115 120

Ser Gln Thr Ala Leu Val Ala Asn Gln Arg Ser Leu Phe Ala
125 130

<210> 103
<211> 318
<212> PRT
<213> Homo sapien

<400> 103
Met Leu Ser Leu Leu His Ala Ser Thr Leu Ala Val Leu Gly Ala
1 5 10 15

Leu Cys Val Tyr Gly Ala Gly His Leu Glu Gln Pro Gln Ile Ser
20 25 30

Ser Thr Lys Thr Leu Ser Lys Thr Ala Arg Leu Glu Cys Val Val
35 40 45

Ser Gly Ile Thr Ile Ser Ala Thr Ser Val Tyr Trp Tyr Arg Glu
50 55 60

Arg Pro Gly Glu Val Ile Gln Phe Leu Val Ser Ile Ser Tyr Asp
65 70 75

Gly Thr Val Arg Lys Glu Ser Gly Ile Pro Ser Gly Lys Phe Glu
80 85 90

Val Asp Arg Ile Pro Glu Thr Ser Thr Ser Thr Leu Thr Ile His
95 100 105

Asn Val Glu Lys Gln Asp Ile Ala Thr Tyr Tyr Cys Ala Leu Trp
110 115 120

Glu Val Arg Leu Ala Asn Gln Glu Leu Gly Lys Lys Ile Lys Val
125 130 135

Phe Gly Pro Gly Thr Lys Leu Ile Ile Thr Asp Lys Gln Leu Asp
140 145 150

Ala Asp Val Ser Pro Lys Pro Thr Ile Phe Leu Pro Ser Ile Ala
155 160 165

Glu Thr Lys Leu Gln Lys Ala Gly Thr Tyr Leu Cys Leu Leu Glu
170 175 180

Lys Phe Phe Pro Asp Val Ile Lys Ile His Trp Gln Glu Lys Lys
185 190 195

Ser Asn Thr Ile Leu Gly Ser Gln Glu Gly Asn Thr Met Lys Thr

200 205 210

Asn Asp Thr Tyr Met Lys Phe Ser Trp Leu Thr Val Pro Glu Lys
215 220 225

Ser Leu Asp Lys Glu His Arg Cys Ile Val Arg His Glu Asn Asn
230 235 240

Lys Asn Gly Val Asp Gln Glu Ile Ile Phe Pro Pro Ile Lys Thr
245 250 255

Asp Val Ile Thr Met Asp Pro Lys Asp Asn Cys Ser Lys Asp Ala
260 265 270

Asn Asp Thr Leu Leu Leu Gln Leu Thr Asn Thr Ser Ala Tyr Tyr
275 280 285

Thr Tyr Leu Leu Leu Leu Leu Lys Ser Val Val Tyr Phe Ala Ile
290 295 300

Ile Thr Cys Cys Leu Leu Arg Arg Thr Ala Phe Cys Cys Asn Gly
305 310 315

Glu Lys Ser

<210> 104
<211> 440
<212> PRT
<213> Homo sapien

<400> 104
Met Asn Tyr Ser Leu His Leu Ala Phe Val Cys Leu Ser Leu Phe
1 5 10 15

Thr Glu Arg Met Cys Ile Gln Gly Ser Gln Phe Asn Val Glu Val
20 25 30

Gly Arg Ser Asp Lys Leu Ser Leu Pro Gly Phe Glu Asn Leu Thr
35 40 45

Ala Gly Tyr Asn Lys Phe Leu Arg Pro Asn Phe Gly Gly Glu Pro
50 55 60

Val Gln Ile Ala Leu Thr Leu Asp Ile Ala Ser Ile Ser Ser Ile
65 70 75

Ser Glu Ser Asn Met Asp Tyr Thr Ala Thr Ile Tyr Leu Arg Gln
80 85 90

Arg Trp Met Asp Gln Arg Leu Val Phe Glu Gly Asn Lys Ser Phe
95 100 105

Thr Leu Asp Ala Arg Leu Val Glu Phe Leu Trp Val Pro Asp Thr
110 115 120

Tyr Ile Val Glu Ser Lys Lys Ser Phe Leu His Glu Val Thr Val
125 130 135

```
Gly Asn Arg Leu Ile Arg Leu Phe Ser Asn Gly Thr Val Leu Tyr
                140                 145                 150

Ala Leu Arg Ile Thr Thr Thr Val Ala Cys Asn Met Asp Leu Ser
                155                 160                 165

Lys Tyr Pro Met Asp Thr Gln Thr Cys Lys Leu Gln Leu Glu Ser
                170                 175                 180

Trp Gly Tyr Asp Gly Asn Asp Val Glu Phe Thr Trp Leu Arg Gly
                185                 190                 195

Asn Asp Ser Val Arg Gly Leu Glu His Leu Arg Leu Ala Gln Tyr
                200                 205                 210

Thr Ile Glu Arg Tyr Phe Thr Leu Val Thr Arg Ser Gln Gln Glu
                215                 220                 225

Thr Gly Asn Tyr Thr Arg Leu Val Leu Gln Phe Glu Leu Arg Arg
                230                 235                 240

Asn Val Leu Tyr Phe Ile Leu Glu Thr Tyr Val Pro Ser Thr Phe
                245                 250                 255

Leu Val Val Leu Ser Trp Val Ser Phe Trp Ile Ser Leu Asp Ser
                260                 265                 270

Val Pro Ala Arg Thr Cys Ile Gly Val Thr Thr Val Leu Ser Met
                275                 280                 285

Thr Thr Leu Met Ile Gly Ser Arg Thr Ser Leu Pro Asn Thr Asn
                290                 295                 300

Cys Phe Ile Lys Ala Ile Asp Val Tyr Leu Gly Ile Cys Phe Ser
                305                 310                 315

Phe Val Phe Gly Ala Leu Leu Glu Tyr Ala Val Ala His Tyr Ser
                320                 325                 330

Ser Leu Gln Gln Met Ala Ala Lys Asp Arg Gly Thr Thr Lys Glu
                335                 340                 345

Val Glu Glu Val Ser Ile Thr Asn Ile Ile Asn Ser Ser Ile Ser
                350                 355                 360

Ser Phe Lys Arg Lys Ile Ser Phe Ala Ser Ile Glu Ile Ser Ser
                365                 370                 375

Asp Asn Val Asp Tyr Ser Asp Leu Thr Met Lys Thr Ser Asp Lys
                380                 385                 390

Phe Lys Phe Val Phe Arg Glu Lys Met Gly Arg Ile Val Asp Tyr
                395                 400                 405

Phe Thr Ile Gln Asn Pro Ser Asn Val Asp His Tyr Ser Lys Leu
                410                 415                 420

Leu Phe Pro Leu Ile Phe Met Leu Ala Asn Val Phe Tyr Trp Ala
```

425 430 435

Tyr Tyr Met Tyr Phe
440

<210> 105
<211> 508
<212> PRT
<213> Homo sapien

<400> 105
Met Ile Leu Val Leu Leu Cys Ala Phe Leu Ile Pro Cys Pro Pro
1 5 10 15

Arg Asp Leu His Ser Thr Trp Ser Arg His Leu Gly Ser Gln Gly
20 25 30

Gly Gly Asp Leu Ser Pro Leu Glu Leu Ala Asp Val Asn Gly Asp
35 40 45

Gly Leu Arg Asp Val Leu Leu Ser Phe Val Met Ser Arg Asn Gly
50 55 60

Ser Ala Val Gly Val Ser Arg Pro Ala Ala Asn Leu Val Cys Leu
65 70 75

Ser Gly Met Asn Gly Ser Thr Leu Trp Ser Ser Leu Leu Pro Glu
80 85 90

Glu Ala Arg Asp Ile Thr Cys Leu Glu Leu Met Pro Gly Ser Leu
95 100 105

Ala Glu Thr Ile Cys Leu Val Thr Gly Thr His Lys Met Leu Ser
110 115 120

Ala Phe Asn Ala Thr Ser Gly Lys Ala Ile Trp Thr Leu Asn Pro
125 130 135

Asn Tyr Leu Ser Asn Gly Thr Leu Ala Ala Pro Val Val Val Leu
140 145 150

Pro Asp Leu Asp Glu Asp Gly Val Arg Asp Leu Val Val Leu Ala
155 160 165

Ile Gly Glu Leu Gln Pro Asp Leu Cys Phe Leu Leu Val Ser Gly
170 175 180

Arg Thr Gly Asn Pro Val Gly Arg Pro Val Lys Tyr Asn Ile Val
185 190 195

Gly Val Gly Asn Leu Ile Gly Pro Gln Val Tyr Ile Thr Thr Asn
200 205 210

Gly Ala Val Tyr Ile Leu Phe Gly Phe Gly Asn Ile Gln Ala Val
215 220 225

Ala Leu Arg Asp Ile Phe Val Gln Ala Gln Asn Arg Asp Ser Ser
230 235 240

```
Pro Pro Ser Leu Gln Ile Glu Glu Pro Glu Trp Glu Lys Arg Arg
                245                 250                 255

Ser Ile Asn Leu Ser Glu Leu Ile Asp Val Tyr Ser Asp Gly Val
                260                 265                 270

Glu Leu Leu Gln Met Val Lys Ala Pro Asp Ser Asn Cys Ser Asn
                275                 280                 285

Leu Leu Ile Thr Thr Arg Gln Ser Leu Val Leu Leu Arg Gly Gln
                290                 295                 300

Asn Leu Thr Pro Tyr Trp Ala Leu Arg Leu Gln Gly Leu Arg Ser
                305                 310                 315

Gln Pro Thr Pro Gly Tyr Phe Thr Asp Asp Gln Thr Leu Asp Phe
                320                 325                 330

Leu Leu Gln Ile Gln Asp Gly Val Gly Met Lys Lys Met Met Val
                335                 340                 345

Val Asp Gly Asp Ser Gly Ser Ile Val Trp Ser Tyr Arg Ala Pro
                350                 355                 360

Cys His Met Lys Glu Thr Pro Ala Thr Ser Ala Val Thr Ser Asp
                365                 370                 375

Gln Lys Ser Val Phe Leu Phe Trp Ala Glu Gly Leu Ser Ala Ala
                380                 385                 390

Ser Pro Asn Ser Asp Ile Ile Leu Gly Thr Glu Pro Pro Ser Leu
                395                 400                 405

His His Leu Tyr Leu Leu His Pro Ala Phe Pro Ser Ile Leu Leu
                410                 415                 420

Asp Leu Ala Asn Thr Thr Gly Thr Val Thr Ala Ser Glu Val Gly
                425                 430                 435

Ile Asn Asp Leu Trp Lys Asp Ala Phe Tyr Val Thr Arg Thr Thr
                440                 445                 450

Gly Pro Ser Ser Glu Gly His Pro Ala Ala Leu Val Val Ser Lys
                455                 460                 465

Leu Ser Leu Arg Trp Ala Leu Met Glu Gly Gln Met Ala Gln Leu
                470                 475                 480

Gln Glu Ser Thr Pro Lys Ile Gly Arg Gly Glu Leu Arg Arg Phe
                485                 490                 495

Leu Ser Arg Ile Lys Phe Val Glu Ala Pro Tyr Glu Ile
                500                 505

<210> 106
<211> 132
<212> PRT
<213> Homo sapien
```

<400> 106
Met Ser Asn Lys Phe Leu Gly Thr Trp Lys Leu Val Ser Ser Glu
1 5 10 15

Asn Phe Asp Asp Tyr Met Lys Ala Leu Gly Val Gly Leu Ala Thr
20 25 30

Arg Lys Leu Gly Asn Leu Ala Lys Pro Thr Val Ile Ile Ser Lys
35 40 45

Lys Gly Asp Ile Ile Thr Ile Arg Thr Glu Ser Thr Phe Lys Asn
50 55 60

Thr Glu Ile Ser Phe Lys Leu Gly Gln Glu Phe Glu Glu Thr Thr
65 70 75

Ala Asp Asn Arg Lys Thr Lys Ser Ile Val Thr Leu Gln Arg Gly
80 85 90

Ser Leu Asn Gln Val Gln Arg Trp Asp Gly Lys Glu Thr Thr Ile
95 100 105

Lys Arg Lys Leu Val Asn Gly Lys Met Val Ala Glu Cys Lys Met
110 115 120

Lys Gly Val Val Cys Thr Arg Ile Tyr Glu Lys Val
125 130

<210> 107
<211> 518
<212> PRT
<213> Homo sapien

<400> 107
Met Gly Ala Leu Ala Arg Ala Leu Leu Leu Pro Leu Leu Ala Gln
1 5 10 15

Trp Leu Leu Arg Ala Ala Pro Glu Leu Ala Pro Ala Pro Phe Thr
20 25 30

Leu Pro Leu Arg Val Ala Ala Ala Thr Asn Arg Val Val Ala Pro
35 40 45

Thr Pro Gly Pro Gly Thr Pro Ala Glu Arg His Ala Asp Gly Leu
50 55 60

Ala Leu Ala Leu Glu Pro Ala Leu Ala Ser Pro Ala Gly Ala Ala
65 70 75

Asn Phe Leu Ala Met Val Asp Asn Leu Gln Gly Asp Ser Gly Arg
80 85 90

Gly Tyr Tyr Leu Glu Met Leu Ile Gly Thr Pro Pro Gln Lys Leu
95 100 105

Gln Ile Leu Val Asp Thr Gly Ser Ser Asn Phe Ala Val Ala Gly
110 115 120

```
Thr Pro His Ser Tyr Ile Asp Thr Tyr Phe Asp Thr Glu Arg Ser
                125                 130                 135

Ser Thr Tyr Arg Ser Lys Gly Phe Asp Val Thr Val Lys Tyr Thr
                140                 145                 150

Gln Gly Ser Trp Thr Gly Phe Val Gly Glu Asp Leu Val Thr Ile
                155                 160                 165

Pro Lys Gly Phe Asn Thr Ser Phe Leu Val Asn Ile Ala Thr Ile
                170                 175                 180

Phe Glu Ser Glu Asn Phe Phe Leu Pro Gly Ile Lys Trp Asn Gly
                185                 190                 195

Ile Leu Gly Leu Ala Tyr Ala Thr Leu Ala Lys Pro Ser Ser Ser
                200                 205                 210

Leu Glu Thr Phe Phe Asp Ser Leu Val Thr Gln Ala Asn Ile Pro
                215                 220                 225

Asn Val Phe Ser Met Gln Met Cys Gly Ala Gly Leu Pro Val Ala
                230                 235                 240

Gly Ser Gly Thr Asn Gly Gly Ser Leu Val Leu Gly Gly Ile Glu
                245                 250                 255

Pro Ser Leu Tyr Lys Gly Asp Ile Trp Tyr Thr Pro Ile Lys Glu
                260                 265                 270

Glu Trp Tyr Tyr Gln Ile Glu Ile Leu Lys Leu Glu Ile Gly Gly
                275                 280                 285

Gln Ser Leu Asn Leu Asp Cys Arg Glu Tyr Asn Ala Asp Lys Ala
                290                 295                 300

Ile Val Asp Ser Gly Thr Thr Leu Leu Arg Leu Pro Gln Lys Val
                305                 310                 315

Phe Asp Ala Val Val Glu Ala Val Ala Arg Ala Ser Leu Ile Pro
                320                 325                 330

Glu Phe Ser Asp Gly Phe Trp Thr Gly Ser Gln Leu Ala Cys Trp
                335                 340                 345

Thr Asn Ser Glu Thr Pro Trp Ser Tyr Phe Pro Lys Ile Ser Ile
                350                 355                 360

Tyr Leu Arg Asp Glu Asn Ser Ser Arg Ser Phe Arg Ile Thr Ile
                365                 370                 375

Leu Pro Gln Leu Tyr Ile Gln Pro Met Met Gly Ala Gly Leu Asn
                380                 385                 390

Tyr Glu Cys Tyr Arg Phe Gly Ile Ser Pro Ser Thr Asn Ala Leu
                395                 400                 405

Val Ile Gly Ala Thr Val Met Glu Gly Phe Tyr Val Ile Phe Asp
```

410 415 420

Arg Ala Gln Lys Arg Val Gly Phe Ala Ala Ser Pro Cys Ala Glu
425 430 435

Ile Ala Gly Ala Ala Val Ser Glu Ile Ser Gly Pro Phe Ser Thr
440 445 450

Glu Asp Val Ala Ser Asn Cys Val Pro Ala Gln Ser Leu Ser Glu
455 460 465

Pro Ile Leu Trp Ile Val Ser Tyr Ala Leu Met Ser Val Cys Gly
470 475 480

Ala Ile Leu Leu Val Leu Ile Val Leu Leu Leu Leu Pro Phe Arg
485 490 495

Cys Gln Arg Arg Pro Arg Asp Pro Glu Val Val Asn Asp Glu Ser
500 505 510

Ser Leu Val Arg His Arg Trp Lys
515

<210> 108
<211> 440
<212> PRT
<213> Homo sapien

<400> 108
Met Ala Val Lys Leu Gly Thr Leu Leu Leu Ala Leu Ala Leu Gly
1 5 10 15

Leu Ala Gln Pro Ala Ser Ala Arg Arg Lys Leu Leu Val Phe Leu
20 25 30

Leu Asp Gly Phe Arg Ser Asp Tyr Ile Ser Asp Glu Ala Leu Glu
35 40 45

Ser Leu Pro Gly Phe Lys Glu Ile Val Ser Arg Gly Val Lys Val
50 55 60

Asp Tyr Leu Thr Pro Asp Phe Pro Ser Leu Ser Tyr Pro Asn Tyr
65 70 75

Tyr Thr Leu Met Thr Gly Arg His Cys Glu Val His Gln Met Ile
80 85 90

Gly Asn Tyr Met Trp Asp Pro Thr Thr Asn Lys Ser Phe Asp Ile
95 100 105

Gly Val Asn Lys Asp Ser Leu Met Pro Leu Trp Trp Asn Gly Ser
110 115 120

Glu Pro Leu Trp Val Thr Leu Thr Lys Ala Lys Arg Lys Val Tyr
125 130 135

Met Tyr Tyr Trp Pro Gly Cys Glu Val Glu Ile Leu Gly Val Arg
140 145 150

```
Pro Thr Tyr Cys Leu Glu Tyr Lys Asn Val Pro Thr Asp Ile Asn
                155                 160                 165

Phe Ala Asn Ala Val Ser Asp Ala Leu Asp Ser Phe Lys Ser Gly
                170                 175                 180

Arg Ala Asp Leu Ala Ala Ile Tyr His Glu Arg Ile Asp Val Glu
                185                 190                 195

Gly His His Tyr Gly Pro Ala Ser Pro Gln Arg Lys Asp Ala Leu
                200                 205                 210

Lys Ala Val Asp Thr Val Leu Lys Tyr Met Thr Lys Trp Ile Gln
                215                 220                 225

Glu Arg Gly Leu Gln Asp Arg Leu Asn Val Ile Ile Phe Ser Asp
                230                 235                 240

His Gly Met Thr Asp Ile Phe Trp Met Asp Lys Val Ile Glu Leu
                245                 250                 255

Asn Lys Tyr Ile Ser Leu Asn Asp Leu Gln Gln Val Lys Asp Arg
                260                 265                 270

Gly Pro Val Val Ser Leu Trp Pro Ala Pro Gly Lys His Ser Glu
                275                 280                 285

Ile Tyr Asn Lys Leu Ser Thr Val Glu His Met Thr Val Tyr Glu
                290                 295                 300

Lys Glu Ala Ile Pro Ser Arg Phe Tyr Tyr Lys Lys Gly Lys Phe
                305                 310                 315

Val Ser Pro Leu Thr Leu Val Ala Asp Glu Gly Trp Phe Ile Thr
                320                 325                 330

Glu Asn Arg Glu Met Leu Pro Phe Trp Met Asn Ser Thr Gly Arg
                335                 340                 345

Arg Glu Gly Trp Gln Arg Gly Trp His Gly Tyr Asp Asn Glu Leu
                350                 355                 360

Met Asp Met Arg Gly Ile Phe Leu Ala Phe Gly Pro Asp Phe Lys
                365                 370                 375

Ser Asn Phe Arg Ala Ala Pro Ile Arg Ser Val Asp Val Tyr Asn
                380                 385                 390

Val Met Cys Asn Val Val Gly Ile Thr Pro Leu Pro Asn Asn Gly
                395                 400                 405

Ser Trp Ser Arg Val Met Cys Met Leu Lys Gly Arg Ala Gly Thr
                410                 415                 420

Ala Pro Pro Val Trp Pro Ser His Cys Ala Leu Ala Leu Ile Leu
                425                 430                 435

Leu Phe Leu Leu Ala
```

```
                440

<210> 109
<211> 90
<212> PRT
<213> Homo sapien

<400> 109
 Met Lys Phe Leu Ala Val Leu Val Leu Leu Gly Val Ser Ile Phe
   1               5                  10                  15

 Leu Val Ser Ala Gln Asn Pro Thr Thr Ala Ala Pro Ala Asp Thr
                  20                  25                  30

 Tyr Pro Ala Thr Gly Pro Ala Asp Asp Glu Ala Pro Asp Ala Glu
                  35                  40                  45

 Thr Thr Ala Ala Ala Thr Thr Ala Thr Thr Ala Ala Pro Thr Thr
                  50                  55                  60

 Ala Thr Thr Ala Ala Ser Thr Thr Ala Arg Lys Asp Ile Pro Val
                  65                  70                  75

 Leu Pro Lys Trp Val Gly Asp Leu Pro Asn Gly Arg Val Cys Pro
                  80                  85                  90

<210> 110
<211> 256
<212> PRT
<213> Homo sapien

<400> 110
 Met Phe Gln Thr Gly Gly Leu Ile Val Phe Tyr Gly Leu Leu Ala
   1               5                  10                  15

 Gln Thr Met Ala Gln Phe Gly Gly Leu Pro Val Pro Leu Asp Gln
                  20                  25                  30

 Thr Leu Pro Leu Asn Val Asn Pro Ala Leu Pro Leu Ser Pro Thr
                  35                  40                  45

 Gly Leu Ala Gly Ser Leu Thr Asn Ala Leu Ser Asn Gly Leu Leu
                  50                  55                  60

 Ser Gly Gly Leu Leu Gly Ile Leu Glu Asn Leu Pro Leu Leu Asp
                  65                  70                  75

 Ile Leu Lys Pro Gly Gly Gly Thr Ser Gly Gly Leu Leu Gly Gly
                  80                  85                  90

 Leu Leu Gly Lys Val Thr Ser Val Ile Pro Gly Leu Asn Asn Ile
                  95                 100                 105

 Ile Asp Ile Lys Val Thr Asp Pro Gln Leu Leu Glu Leu Gly Leu
                 110                 115                 120

 Val Gln Ser Pro Asp Gly His Arg Leu Tyr Val Thr Ile Pro Leu
                 125                 130                 135
```

Gly Ile Lys Leu Gln Val Asn Thr Pro Leu Val Gly Ala Ser Leu
140 145 150

Leu Arg Leu Ala Val Lys Leu Asp Ile Thr Ala Glu Ile Leu Ala
155 160 165

Val Arg Asp Lys Gln Glu Arg Ile His Leu Val Leu Gly Asp Cys
170 175 180

Thr His Ser Pro Gly Ser Leu Gln Ile Ser Leu Leu Asp Gly Leu
185 190 195

Gly Pro Leu Pro Ile Gln Gly Leu Leu Asp Ser Leu Thr Gly Ile
200 205 210

Leu Asn Lys Val Leu Pro Glu Leu Val Gln Gly Asn Val Cys Pro
215 220 225

Leu Val Asn Glu Val Leu Arg Gly Leu Asp Ile Thr Leu Val His
230 235 240

Asp Ile Val Asn Met Leu Ile His Gly Leu Gln Phe Val Ile Lys
245 250 255

Val

<210> 111
<211> 775
<212> PRT
<213> Homo sapien

<400> 111
Met Glu Pro Pro Tyr Ser Leu Thr Ala His Tyr Asp Glu Phe Gln
1 5 10 15

Glu Val Lys Tyr Val Ser Arg Cys Gly Ala Gly Gly Ala Arg Gly
20 25 30

Ala Ser Leu Pro Pro Gly Phe Pro Leu Gly Ala Ala Arg Ser Val
35 40 45

Thr Gly Ala Arg Ser Gly Leu Pro Arg Trp Asn Arg Arg Glu Val
50 55 60

Cys Leu Leu Ser Gly Leu Val Phe Ala Ala Gly Leu Cys Ala Ile
65 70 75

Leu Ala Ala Met Leu Ala Leu Lys Tyr Leu Gly Pro Val Ala Ala
80 85 90

Gly Gly Gly Ala Cys Pro Glu Gly Cys Pro Glu Arg Lys Ala Phe
95 100 105

Ala Arg Ala Ala Arg Phe Leu Ala Ala Asn Leu Asp Ala Ser Ile
110 115 120

Asp Pro Cys Gln Asp Phe Tyr Ser Phe Ala Cys Gly Gly Trp Leu

```
                125                 130                 135

Arg Arg His Ala Ile Pro Asp Asp Lys Leu Thr Tyr Gly Thr Ile
                140                 145                 150

Ala Ala Ile Gly Glu Gln Asn Glu Glu Arg Leu Arg Arg Leu Leu
                155                 160                 165

Ala Arg Pro Gly Gly Gly Pro Gly Gly Ala Ala Gln Arg Lys Val
                170                 175                 180

Arg Ala Phe Phe Arg Ser Cys Leu Asp Met Arg Glu Ile Glu Arg
                185                 190                 195

Leu Gly Pro Arg Pro Met Leu Glu Val Ile Glu Asp Cys Gly Gly
                200                 205                 210

Trp Asp Leu Gly Gly Ala Glu Glu Arg Pro Gly Val Ala Ala Arg
                215                 220                 225

Trp Asp Leu Asn Arg Leu Leu Tyr Lys Ala Gln Gly Val Tyr Ser
                230                 235                 240

Ala Ala Ala Leu Phe Ser Leu Thr Val Ser Leu Asp Asp Arg Asn
                245                 250                 255

Ser Ser Arg Tyr Val Ile Arg Ile Asp Gln Asp Gly Leu Thr Leu
                260                 265                 270

Pro Glu Arg Thr Leu Tyr Leu Ala Gln Asp Glu Asp Ser Glu Lys
                275                 280                 285

Ile Leu Ala Ala Tyr Arg Val Phe Met Glu Arg Val Leu Ser Leu
                290                 295                 300

Leu Gly Ala Asp Ala Val Glu Gln Lys Ala Gln Glu Ile Leu Gln
                305                 310                 315

Val Glu Gln Gln Leu Ala Asn Ile Thr Val Ser Glu Tyr Asp Asp
                320                 325                 330

Leu Arg Arg Asp Val Ser Ser Met Tyr Asn Lys Val Thr Leu Gly
                335                 340                 345

Gln Leu Gln Lys Ile Thr Pro His Leu Arg Trp Lys Trp Leu Leu
                350                 355                 360

Asp Gln Ile Phe Gln Glu Asp Phe Ser Glu Glu Glu Glu Val Val
                365                 370                 375

Leu Leu Ala Thr Asp Tyr Met Gln Gln Val Ser Gln Leu Ile Arg
                380                 385                 390

Ser Thr Pro His Arg Val Leu His Asn Tyr Leu Val Trp Arg Val
                395                 400                 405

Val Val Val Leu Ser Glu His Leu Ser Pro Pro Phe Arg Glu Ala
                410                 415                 420
```

```
Leu His Glu Leu Ala Gln Glu Met Glu Gly Ser Asp Lys Pro Gln
                425                 430                 435

Glu Leu Ala Arg Val Cys Leu Gly Gln Ala Asn Arg His Phe Gly
                440                 445                 450

Met Ala Leu Gly Ala Leu Phe Val His Glu His Phe Ser Ala Ala
                455                 460                 465

Ser Lys Ala Lys Val Gln Gln Leu Val Glu Asp Ile Lys Tyr Ile
                470                 475                 480

Leu Gly Gln Arg Leu Glu Glu Leu Asp Trp Met Asp Ala Glu Thr
                485                 490                 495

Arg Ala Ala Ala Arg Ala Lys Leu Gln Tyr Met Met Val Met Val
                500                 505                 510

Gly Tyr Pro Asp Phe Leu Leu Lys Pro Asp Ala Val Asp Lys Glu
                515                 520                 525

Tyr Glu Phe Glu Val His Glu Lys Thr Tyr Phe Lys Asn Ile Leu
                530                 535                 540

Asn Ser Ile Pro Phe Ser Ile Gln Leu Ser Val Lys Lys Ile Arg
                545                 550                 555

Gln Glu Val Asp Lys Ser Thr Trp Leu Leu Pro Pro Gln Ala Leu
                560                 565                 570

Asn Ala Tyr Tyr Leu Pro Asn Lys Asn Gln Met Val Phe Pro Ala
                575                 580                 585

Gly Ile Leu Gln Pro Thr Leu Tyr Asp Pro Asp Phe Pro Gln Ser
                590                 595                 600

Leu Asn Tyr Gly Gly Ile Gly Thr Ile Ile Gly His Glu Leu Thr
                605                 610                 615

His Gly Tyr Asp Asp Trp Gly Gly Gln Tyr Asp Arg Ser Gly Asn
                620                 625                 630

Leu Leu His Trp Trp Thr Glu Ala Ser Tyr Ser Arg Phe Leu Arg
                635                 640                 645

Lys Ala Glu Cys Ile Val Arg Leu Tyr Asp Asn Phe Thr Val Tyr
                650                 655                 660

Asn Gln Arg Val Asn Gly Lys His Thr Leu Gly Glu Asn Ile Ala
                665                 670                 675

Asp Met Gly Val Leu Lys Leu Ala Tyr His Ala Tyr Gln Lys Trp
                680                 685                 690

Val Arg Glu His Gly Pro Glu His Pro Leu Pro Arg Leu Lys Tyr
                695                 700                 705

Thr His Asp Gln Leu Phe Phe Ile Ala Phe Ala Gln Asn Trp Cys
```

```
                710                 715                 720

Ile Lys Arg Arg Ser Gln Ser Ile Tyr Leu Gln Val Leu Thr Asp
                725                 730                 735

Lys His Ala Pro Glu His Tyr Arg Val Leu Gly Ser Val Ser Gln
                740                 745                 750

Phe Glu Glu Phe Gly Arg Ala Phe His Cys Pro Lys Asp Ser Pro
                755                 760                 765

Met Asn Pro Ala His Lys Cys Ser Val Trp
                770                 775

<210> 112
<211> 529
<212> PRT
<213> Homo sapien

<400> 112
Met Gly Pro Ser Cys Pro Val Phe Leu Ser Phe Thr Lys Leu Ser
1               5                   10                  15

Leu Trp Trp Leu Leu Leu Thr Pro Ala Gly Gly Glu Glu Ala Lys
                20                  25                  30

Arg Pro Pro Pro Arg Ala Pro Gly Asp Pro Leu Ser Ser Pro Ser
                35                  40                  45

Pro Thr Ala Leu Pro Gln Gly Gly Ser His Thr Glu Thr Glu Asp
                50                  55                  60

Arg Leu Phe Lys His Leu Phe Arg Gly Tyr Asn Arg Trp Ala Arg
                65                  70                  75

Pro Val Pro Asn Thr Ser Asp Val Val Ile Val Arg Phe Gly Leu
                80                  85                  90

Ser Ile Ala Gln Leu Ile Asp Val Asp Glu Lys Asn Gln Met Met
                95                  100                 105

Thr Thr Asn Val Trp Leu Lys Gln Glu Trp Ser Asp Tyr Lys Leu
                110                 115                 120

Arg Trp Asn Pro Ala Asp Phe Gly Asn Ile Thr Ser Leu Arg Val
                125                 130                 135

Pro Ser Glu Met Ile Trp Ile Pro Asp Ile Val Leu Tyr Asn Asn
                140                 145                 150

Ala Asp Gly Glu Phe Ala Val Thr His Met Thr Lys Ala His Leu
                155                 160                 165

Phe Ser Thr Gly Thr Val His Trp Val Pro Pro Ala Ile Tyr Lys
                170                 175                 180

Ser Ser Cys Ser Ile Asp Val Thr Phe Phe Pro Phe Asp Gln Gln
                185                 190                 195
```

```
Asn Cys Lys Met Lys Phe Gly Ser Trp Thr Tyr Asp Lys Ala Lys
                200                 205                 210

Ile Asp Leu Glu Gln Met Glu Gln Thr Val Asp Leu Lys Asp Tyr
                215                 220                 225

Trp Glu Ser Gly Glu Trp Ala Ile Val Asn Ala Thr Gly Thr Tyr
                230                 235                 240

Asn Ser Lys Lys Tyr Asp Cys Cys Ala Glu Ile Tyr Pro Asp Val
                245                 250                 255

Thr Tyr Ala Phe Val Ile Arg Arg Leu Pro Leu Phe Tyr Thr Ile
                260                 265                 270

Asn Leu Ile Ile Pro Cys Leu Leu Ile Ser Cys Leu Thr Val Leu
                275                 280                 285

Val Phe Tyr Leu Pro Ser Asp Cys Gly Glu Lys Ile Thr Leu Cys
                290                 295                 300

Ile Ser Val Leu Leu Ser Leu Thr Val Phe Leu Leu Leu Ile Thr
                305                 310                 315

Glu Ile Ile Pro Ser Thr Ser Leu Val Ile Pro Leu Ile Gly Glu
                320                 325                 330

Tyr Leu Leu Phe Thr Met Ile Phe Val Thr Leu Ser Ile Val Ile
                335                 340                 345

Thr Val Phe Val Leu Asn Val His His Arg Ser Pro Ser Thr His
                350                 355                 360

Thr Met Pro His Trp Val Arg Gly Ala Leu Leu Gly Cys Val Pro
                365                 370                 375

Arg Trp Leu Leu Met Asn Arg Pro Pro Pro Pro Val Glu Leu Cys
                380                 385                 390

His Pro Leu Arg Leu Lys Leu Ser Pro Ser Tyr His Trp Leu Glu
                395                 400                 405

Ser Asn Val Asp Ala Glu Glu Arg Glu Val Val Val Glu Glu Glu
                410                 415                 420

Asp Arg Trp Ala Cys Ala Gly His Val Ala Pro Ser Val Gly Thr
                425                 430                 435

Leu Cys Ser His Gly His Leu His Ser Gly Ala Ser Gly Pro Lys
                440                 445                 450

Ala Glu Ala Leu Leu Gln Glu Gly Glu Leu Leu Leu Ser Pro His
                455                 460                 465

Met Gln Lys Ala Leu Glu Gly Val His Tyr Ile Ala Asp His Leu
                470                 475                 480

Arg Ser Glu Asp Ala Asp Ser Ser Val Lys Glu Asp Trp Lys Tyr
```

```
                  485                     490                     495

Val Ala Met Val Ile Asp Arg Ile Phe Leu Trp Leu Phe Ile Ile
                500                     505                     510

Val Cys Phe Leu Gly Thr Ile Gly Leu Phe Leu Pro Pro Phe Leu
                515                     520                     525

Ala Gly Met Ile


<210> 113
<211> 202
<212> PRT
<213> Homo sapien

<400> 113
Met Leu Pro Pro Gly Thr Ala Thr Leu Leu Thr Leu Leu Leu Ala
 1               5                  10                  15

Ala Gly Ser Leu Gly Gln Lys Pro Gln Arg Pro Arg Arg Pro Ala
                20                  25                  30

Ser Pro Ile Ser Thr Ile Gln Pro Lys Ala Asn Phe Asp Ala Gln
                35                  40                  45

Gln Phe Ala Gly Thr Trp Leu Leu Val Ala Val Gly Ser Ala Cys
                50                  55                  60

Arg Phe Leu Gln Glu Gln Gly His Arg Ala Glu Ala Thr Thr Leu
                65                  70                  75

His Val Ala Pro Gln Gly Thr Ala Met Ala Val Ser Thr Phe Arg
                80                  85                  90

Lys Leu Asp Gly Ile Cys Trp Gln Val Arg Gln Leu Tyr Gly Asp
                95                 100                 105

Thr Gly Val Leu Gly Arg Phe Leu Leu Gln Ala Arg Gly Ala Arg
               110                 115                 120

Gly Ala Val Asn Val Val Val Ala Glu Thr Asp Tyr Gln Ser Phe
               125                 130                 135

Ala Val Leu Tyr Leu Glu Arg Ala Gly Gln Leu Ser Val Lys Leu
               140                 145                 150

Tyr Ala Arg Ser Leu Pro Val Ser Asp Ser Val Leu Ser Gly Phe
               155                 160                 165

Glu Gln Arg Val Gln Glu Ala His Leu Thr Glu Asp Gln Ile Phe
               170                 175                 180

Tyr Phe Pro Lys Tyr Gly Phe Cys Glu Ala Ala Asp Gln Phe His
               185                 190                 195

Val Leu Asp Glu Val Arg Arg
               200
```

```
<210> 114
<211> 267
<212> PRT
<213> Homo sapien

<400> 114
Met Arg Leu Thr Val Leu Cys Ala Val Cys Leu Leu Pro Gly Ser
 1               5                  10                  15

Leu Ala Leu Pro Leu Pro Gln Glu Ala Gly Gly Met Ser Glu Leu
                20                  25                  30

Gln Trp Glu Gln Ala Gln Asp Tyr Leu Lys Arg Phe Tyr Leu Tyr
                35                  40                  45

Asp Ser Glu Thr Lys Asn Ala Asn Ser Leu Glu Ala Lys Leu Lys
                50                  55                  60

Glu Met Gln Lys Phe Phe Gly Leu Pro Ile Thr Gly Met Leu Asn
                65                  70                  75

Ser Arg Val Ile Glu Ile Met Gln Lys Pro Arg Cys Gly Val Pro
                80                  85                  90

Asp Val Ala Glu Tyr Ser Leu Phe Pro Asn Ser Pro Lys Trp Thr
                95                 100                 105

Ser Lys Val Val Thr Tyr Arg Ile Val Ser Tyr Thr Arg Asp Leu
               110                 115                 120

Pro His Ile Thr Val Asp Arg Leu Val Ser Lys Ala Leu Asn Met
               125                 130                 135

Trp Gly Lys Glu Ile Pro Leu His Phe Arg Lys Val Val Trp Gly
               140                 145                 150

Thr Ala Asp Ile Met Ile Gly Phe Ala Arg Gly Ala His Gly Asp
               155                 160                 165

Ser Tyr Pro Phe Asp Gly Pro Gly Asn Thr Leu Ala His Ala Phe
               170                 175                 180

Ala Pro Gly Thr Gly Leu Gly Gly Asp Ala His Phe Asp Glu Asp
               185                 190                 195

Glu Arg Trp Thr Asp Gly Ser Ser Leu Gly Ile Asn Phe Leu Tyr
               200                 205                 210

Ala Ala Thr His Glu Leu Gly His Ser Leu Gly Met Gly His Ser
               215                 220                 225

Ser Asp Pro Asn Ala Val Met Tyr Pro Thr Tyr Gly Asn Gly Asp
               230                 235                 240

Pro Gln Asn Phe Lys Leu Ser Gln Asp Asp Ile Lys Gly Ile Gln
               245                 250                 255

Lys Leu Tyr Gly Lys Arg Ser Asn Ser Arg Lys Lys
```

```
                260                 265

<210> 115
<211> 314
<212> PRT
<213> Homo sapien

<400> 115
Met Ala Pro Pro Gln Val Leu Ala Phe Gly Leu Leu Leu Ala Ala
 1               5                  10                  15

Ala Thr Ala Thr Phe Ala Ala Ala Gln Glu Glu Cys Val Cys Glu
                20                  25                  30

Asn Tyr Lys Leu Ala Val Asn Cys Phe Val Asn Asn Asn Arg Gln
                35                  40                  45

Cys Gln Cys Thr Ser Val Gly Ala Gln Asn Thr Val Ile Cys Ser
                50                  55                  60

Lys Leu Ala Ala Lys Cys Leu Val Met Lys Ala Glu Met Asn Gly
                65                  70                  75

Ser Lys Leu Gly Arg Arg Ala Lys Pro Glu Gly Ala Leu Gln Asn
                80                  85                  90

Asn Asp Gly Leu Tyr Asp Pro Asp Cys Asp Glu Ser Gly Leu Phe
                95                 100                 105

Lys Ala Lys Gln Cys Asn Gly Thr Ser Thr Cys Trp Cys Val Asn
               110                 115                 120

Thr Ala Gly Val Arg Arg Thr Asp Lys Asp Thr Glu Ile Thr Cys
               125                 130                 135

Ser Glu Arg Val Arg Thr Tyr Trp Ile Ile Ile Glu Leu Lys His
               140                 145                 150

Lys Ala Arg Glu Lys Pro Tyr Asp Ser Lys Ser Leu Arg Thr Ala
               155                 160                 165

Leu Gln Lys Glu Ile Thr Thr Arg Tyr Gln Leu Asp Pro Lys Phe
               170                 175                 180

Ile Thr Ser Ile Leu Tyr Glu Asn Asn Val Ile Thr Ile Asp Leu
               185                 190                 195

Val Gln Asn Ser Ser Gln Lys Thr Gln Asn Asp Val Asp Ile Ala
               200                 205                 210

Asp Val Ala Tyr Tyr Phe Glu Lys Asp Val Lys Gly Glu Ser Leu
               215                 220                 225

Phe His Ser Lys Lys Met Asp Leu Thr Val Asn Gly Glu Gln Leu
               230                 235                 240

Asp Leu Asp Pro Gly Gln Thr Leu Ile Tyr Tyr Val Asp Glu Lys
               245                 250                 255
```

Ala Pro Glu Phe Ser Met Gln Gly Leu Lys Ala Gly Val Ile Ala
260 265 270

Val Ile Val Val Val Val Met Ala Val Val Ala Gly Ile Val Val
275 280 285

Leu Val Ile Ser Arg Lys Lys Arg Met Ala Lys Tyr Glu Lys Ala
290 295 300

Glu Ile Lys Glu Met Gly Glu Met His Arg Glu Leu Asn Ala
305 310

<210> 116
<211> 130
<212> PRT
<213> Homo sapien

<400> 116
Met Arg Gln Lys Ala Val Ser Val Phe Leu Cys Tyr Leu Leu Leu
1 5 10 15

Phe Thr Cys Ser Gly Val Glu Ala Gly Lys Lys Lys Cys Ser Glu
20 25 30

Ser Ser Asp Ser Gly Ser Gly Phe Trp Lys Ala Leu Thr Phe Met
35 40 45

Ala Val Gly Gly Gly Leu Ala Val Ala Gly Leu Pro Ala Leu Gly
50 55 60

Phe Thr Gly Ala Gly Ile Ala Ala Asn Ser Val Ala Ala Ser Leu
65 70 75

Met Ser Trp Ser Ala Ile Leu Asn Gly Gly Gly Val Pro Ala Gly
80 85 90

Gly Leu Val Ala Thr Leu Gln Ser Leu Gly Ala Gly Gly Ser Ser
95 100 105

Val Val Ile Gly Asn Ile Gly Ala Leu Met Arg Tyr Ala Thr His
110 115 120

Lys Tyr Leu Asp Ser Glu Glu Asp Glu Glu
125 130

<210> 117
<211> 799
<212> PRT
<213> Homo sapien

<400> 117
Met Pro Arg Ala Pro Ala Pro Leu Tyr Ala Cys Leu Leu Gly Leu
1 5 10 15

Cys Ala Leu Leu Pro Arg Leu Ala Gly Leu Asn Ile Cys Thr Ser
20 25 30

Gly Ser Ala Thr Ser Cys Glu Glu Cys Leu Leu Ile His Pro Lys

```
                35                  40                  45

Cys Ala Trp Cys Ser Lys Glu Asp Phe Gly Ser Pro Arg Ser Ile
                50                  55                  60

Thr Ser Arg Cys Asp Leu Arg Ala Asn Leu Val Lys Asn Gly Cys
                65                  70                  75

Gly Gly Glu Ile Glu Ser Pro Ala Ser Ser Phe His Val Leu Arg
                80                  85                  90

Ser Leu Pro Leu Ser Ser Lys Gly Ser Gly Ser Ala Gly Trp Asp
                95                 100                 105

Val Ile Gln Met Thr Pro Gln Glu Ile Ala Val Asn Leu Arg Pro
               110                 115                 120

Gly Asp Lys Thr Thr Phe Gln Leu Gln Val Arg Gln Val Glu Asp
               125                 130                 135

Tyr Pro Val Asp Leu Tyr Tyr Leu Met Asp Leu Ser Leu Ser Met
               140                 145                 150

Lys Asp Asp Leu Asp Asn Ile Arg Ser Leu Gly Thr Lys Leu Ala
               155                 160                 165

Glu Glu Met Arg Lys Leu Thr Ser Asn Phe Arg Leu Gly Phe Gly
               170                 175                 180

Ser Phe Val Asp Lys Asp Ile Ser Pro Phe Ser Tyr Thr Ala Pro
               185                 190                 195

Arg Tyr Gln Thr Asn Pro Cys Ile Gly Tyr Lys Leu Phe Pro Asn
               200                 205                 210

Cys Val Pro Ser Phe Gly Phe Arg His Leu Leu Pro Leu Thr Asp
               215                 220                 225

Arg Val Asp Ser Phe Asn Glu Glu Val Arg Lys Gln Arg Val Ser
               230                 235                 240

Arg Asn Arg Asp Ala Pro Glu Gly Gly Phe Asp Ala Val Leu Gln
               245                 250                 255

Ala Ala Val Cys Lys Glu Lys Ile Gly Trp Arg Lys Asp Ala Leu
               260                 265                 270

His Leu Leu Val Phe Thr Thr Asp Asp Val Pro His Ile Ala Leu
               275                 280                 285

Asp Gly Lys Leu Gly Gly Leu Val Gln Pro His Asp Gly Gln Cys
               290                 295                 300

His Leu Asn Glu Ala Asn Glu Tyr Thr Ala Ser Asn Gln Met Asp
               305                 310                 315

Tyr Pro Ser Leu Ala Leu Leu Gly Glu Lys Leu Ala Glu Asn Asn
               320                 325                 330
```

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Ile Asn Leu Ile Phe Ala Val Thr Lys Asn His Tyr Met Leu Tyr
                335                 340                 345

Lys Asn Phe Thr Ala Leu Ile Pro Gly Thr Thr Val Glu Ile Leu
                350                 355                 360

Asp Gly Asp Ser Lys Asn Ile Ile Gln Leu Ile Ile Asn Ala Tyr
                365                 370                 375

Asn Ser Ile Arg Ser Lys Val Glu Leu Ser Val Trp Asp Gln Pro
                380                 385                 390

Glu Asp Leu Asn Leu Phe Phe Thr Ala Thr Cys Gln Asp Gly Val
                395                 400                 405

Ser Tyr Pro Gly Gln Arg Lys Cys Glu Gly Leu Lys Ile Gly Asp
                410                 415                 420

Thr Ala Ser Phe Glu Val Ser Leu Glu Ala Arg Ser Cys Pro Ser
                425                 430                 435

Arg His Thr Glu His Val Phe Ala Leu Arg Pro Val Gly Phe Arg
                440                 445                 450

Asp Ser Leu Glu Val Gly Val Thr Tyr Asn Cys Thr Cys Gly Cys
                455                 460                 465

Ser Val Gly Leu Glu Pro Asn Ser Ala Arg Cys Asn Gly Ser Gly
                470                 475                 480

Thr Tyr Val Cys Gly Leu Cys Glu Cys Ser Pro Gly Tyr Leu Gly
                485                 490                 495

Thr Arg Cys Glu Cys Gln Asp Gly Glu Asn Gln Ser Val Tyr Gln
                500                 505                 510

Asn Leu Cys Arg Glu Ala Glu Gly Lys Pro Leu Cys Ser Gly Arg
                515                 520                 525

Gly Asp Cys Ser Cys Asn Gln Cys Ser Cys Phe Glu Ser Glu Phe
                530                 535                 540

Gly Lys Ile Tyr Gly Pro Phe Cys Glu Cys Asp Asn Phe Ser Cys
                545                 550                 555

Ala Arg Asn Lys Gly Val Leu Cys Ser Gly His Gly Glu Cys His
                560                 565                 570

Cys Gly Glu Cys Lys Cys His Ala Gly Tyr Ile Gly Asp Asn Cys
                575                 580                 585

Asn Cys Ser Thr Asp Ile Ser Thr Cys Arg Gly Arg Asp Gly Gln
                590                 595                 600

Ile Cys Ser Glu Arg Gly His Cys Leu Cys Gly Gln Cys Gln Cys
                605                 610                 615

Thr Glu Pro Gly Ala Phe Gly Glu Met Cys Glu Lys Cys Pro Thr
```

620 625 630

Cys Pro Asp Ala Cys Ser Thr Lys Arg Asp Cys Val Glu Cys Leu
635 640 645

Leu Leu His Ser Gly Lys Pro Asp Asn Gln Thr Cys His Ser Leu
650 655 660

Cys Arg Asp Glu Val Ile Thr Trp Val Asp Thr Ile Val Lys Asp
665 670 675

Asp Gln Glu Ala Val Leu Cys Phe Tyr Lys Thr Ala Lys Asp Cys
680 685 690

Val Met Met Phe Thr Tyr Val Glu Leu Pro Ser Gly Lys Ser Asn
695 700 705

Leu Thr Val Leu Arg Glu Pro Glu Cys Gly Asn Thr Pro Asn Ala
710 715 720

Met Thr Ile Leu Leu Ala Val Val Gly Ser Ile Leu Leu Val Gly
725 730 735

Leu Ala Leu Leu Ala Ile Trp Lys Leu Leu Val Thr Ile His Asp
740 745 750

Arg Arg Glu Phe Ala Lys Phe Gln Ser Glu Arg Ser Arg Ala Arg
755 760 765

Tyr Glu Met Ala Ser Asn Pro Leu Tyr Arg Lys Pro Ile Ser Thr
770 775 780

His Thr Val Asp Phe Thr Phe Asn Lys Phe Asn Lys Ser Tyr Asn
785 790 795

Gly Thr Val Asp

<210> 118
<211> 680
<212> PRT
<213> Homo sapien

<400> 118
Met Leu Pro Gln Ile Pro Phe Leu Leu Leu Val Ser Leu Asn Leu
1 5 10 15

Val His Gly Val Phe Tyr Ala Glu Arg Tyr Gln Met Pro Thr Gly
20 25 30

Ile Lys Gly Pro Leu Pro Asn Thr Lys Thr Gln Phe Phe Ile Pro
35 40 45

Tyr Thr Ile Lys Ser Lys Gly Ile Ala Val Arg Gly Glu Gln Gly
50 55 60

Thr Pro Gly Pro Pro Gly Pro Ala Gly Pro Arg Gly His Pro Gly
65 70 75

```
Pro Ser Gly Pro Pro Gly Lys Pro Gly Tyr Gly Ser Pro Gly Leu
                 80                  85                  90

Gln Gly Glu Pro Gly Leu Pro Gly Pro Pro Gly Pro Ser Ala Val
                 95                 100                 105

Gly Lys Pro Gly Val Pro Gly Leu Pro Gly Lys Pro Gly Glu Arg
                110                 115                 120

Gly Pro Tyr Gly Pro Lys Gly Asp Val Gly Pro Ala Gly Leu Pro
                125                 130                 135

Gly Pro Arg Gly Pro Pro Gly Pro Pro Gly Ile Pro Gly Pro Ala
                140                 145                 150

Gly Ile Ser Val Pro Gly Lys Pro Gly Gln Gln Gly Pro Thr Gly
                155                 160                 165

Ala Pro Gly Pro Arg Gly Phe Pro Gly Glu Lys Gly Ala Pro Gly
                170                 175                 180

Val Pro Gly Met Asn Gly Gln Lys Gly Glu Met Gly Tyr Gly Ala
                185                 190                 195

Pro Gly Arg Pro Gly Glu Arg Gly Leu Pro Gly Pro Gln Gly Pro
                200                 205                 210

Thr Gly Pro Ser Gly Pro Pro Gly Val Gly Lys Arg Gly Glu Asn
                215                 220                 225

Gly Val Pro Gly Gln Pro Gly Ile Lys Gly Asp Arg Gly Phe Pro
                230                 235                 240

Gly Glu Met Gly Pro Ile Gly Pro Pro Gly Pro Gln Gly Pro Pro
                245                 250                 255

Gly Glu Arg Gly Pro Glu Gly Ile Gly Lys Pro Gly Ala Ala Gly
                260                 265                 270

Ala Pro Gly Gln Pro Gly Ile Pro Gly Thr Lys Gly Leu Pro Gly
                275                 280                 285

Ala Pro Gly Ile Ala Gly Pro Pro Gly Pro Pro Gly Phe Gly Lys
                290                 295                 300

Pro Gly Leu Pro Gly Leu Lys Gly Glu Arg Gly Pro Ala Gly Leu
                305                 310                 315

Pro Gly Gly Pro Gly Ala Lys Gly Glu Gln Gly Pro Ala Gly Leu
                320                 325                 330

Pro Gly Lys Pro Gly Leu Thr Gly Pro Pro Gly Asn Met Gly Pro
                335                 340                 345

Gln Gly Pro Lys Gly Ile Pro Gly Ser His Gly Leu Pro Gly Pro
                350                 355                 360

Lys Gly Glu Thr Gly Pro Ala Gly Pro Ala Gly Tyr Pro Gly Ala
```

365 370 375

Lys Gly Glu Arg Gly Ser Pro Gly Ser Asp Gly Lys Pro Gly Tyr
380 385 390

Pro Gly Lys Pro Gly Leu Asp Gly Pro Lys Gly Asn Pro Gly Leu
395 400 405

Pro Gly Pro Lys Gly Asp Pro Gly Val Gly Gly Pro Pro Gly Leu
410 415 420

Pro Gly Pro Val Gly Pro Ala Gly Ala Lys Gly Met Pro Gly His
425 430 435

Asn Gly Glu Ala Gly Pro Arg Gly Ala Pro Gly Ile Pro Gly Thr
440 445 450

Arg Gly Pro Ile Gly Pro Pro Gly Ile Pro Gly Phe Pro Gly Ser
455 460 465

Lys Gly Asp Pro Gly Ser Pro Gly Pro Pro Gly Pro Ala Gly Ile
470 475 480

Ala Thr Lys Gly Leu Asn Gly Pro Thr Gly Pro Pro Gly Pro Pro
485 490 495

Gly Pro Arg Gly His Ser Gly Glu Pro Gly Leu Pro Gly Pro Pro
500 505 510

Gly Pro Pro Gly Pro Pro Gly Gln Ala Val Met Pro Glu Gly Phe
515 520 525

Ile Lys Ala Gly Gln Arg Pro Ser Leu Ser Gly Thr Pro Leu Val
530 535 540

Ser Ala Asn Gln Gly Val Thr Gly Met Pro Val Ser Ala Phe Thr
545 550 555

Val Ile Leu Ser Lys Ala Tyr Pro Ala Ile Gly Thr Pro Ile Pro
560 565 570

Phe Asp Lys Ile Leu Tyr Asn Arg Gln Gln His Tyr Asp Pro Arg
575 580 585

Thr Gly Ile Phe Thr Cys Gln Ile Pro Gly Ile Tyr Tyr Phe Ser
590 595 600

Tyr His Val His Val Lys Gly Thr His Val Trp Val Gly Leu Tyr
605 610 615

Lys Asn Gly Thr Pro Val Met Tyr Thr Tyr Asp Glu Tyr Thr Lys
620 625 630

Gly Tyr Leu Asp Gln Ala Ser Gly Ser Ala Ile Ile Asp Leu Thr
635 640 645

Glu Asn Asp Gln Val Trp Leu Gln Leu Pro Asn Ala Glu Ser Asn
650 655 660

```
Gly Leu Tyr Ser Ser Glu Tyr Val His Ser Ser Phe Ser Gly Phe
                665                 670                 675

Leu Val Ala Pro Met
                680

<210> 119
<211> 508
<212> PRT
<213> Homo sapien

<400> 119
Met Leu Leu Trp Ser Leu Leu Val Ile Phe Asp Ala Val Thr Glu
 1               5                  10                  15

Gln Ala Asp Ser Leu Thr Leu Val Ala Pro Ser Ser Val Phe Glu
                 20                  25                  30

Gly Asp Ser Ile Val Leu Lys Cys Gln Gly Glu Gln Asn Trp Lys
                 35                  40                  45

Ile Gln Lys Met Ala Tyr His Lys Asp Asn Lys Glu Leu Ser Val
                 50                  55                  60

Phe Lys Lys Phe Ser Asp Phe Leu Ile Gln Ser Ala Val Leu Ser
                 65                  70                  75

Asp Ser Gly Asn Tyr Phe Cys Ser Thr Lys Gly Gln Leu Phe Leu
                 80                  85                  90

Trp Asp Lys Thr Ser Asn Ile Val Lys Ile Lys Val Gln Glu Leu
                 95                 100                 105

Phe Gln Arg Pro Val Leu Thr Ala Ser Ser Phe Gln Pro Ile Glu
                110                 115                 120

Gly Gly Pro Val Ser Leu Lys Cys Glu Thr Arg Leu Ser Pro Gln
                125                 130                 135

Arg Leu Asp Val Gln Leu Gln Phe Cys Phe Phe Arg Glu Asn Gln
                140                 145                 150

Val Leu Gly Ser Gly Trp Ser Ser Ser Pro Glu Leu Gln Ile Ser
                155                 160                 165

Ala Val Trp Ser Glu Asp Thr Gly Ser Tyr Trp Cys Lys Ala Glu
                170                 175                 180

Thr Val Thr His Arg Ile Arg Lys Gln Ser Leu Gln Ser Gln Ile
                185                 190                 195

His Val Gln Arg Ile Pro Ile Ser Asn Val Ser Leu Glu Ile Arg
                200                 205                 210

Ala Pro Gly Gly Gln Val Thr Glu Gly Gln Lys Leu Ile Leu Leu
                215                 220                 225

Cys Ser Val Ala Gly Gly Thr Gly Asn Val Thr Phe Ser Trp Tyr
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                230                 235                 240

Arg Glu Ala Thr Gly Thr Ser Met Gly Lys Lys Thr Gln Arg Ser
                245                 250                 255

Leu Ser Ala Glu Leu Glu Ile Pro Ala Val Lys Glu Ser Asp Ala
                260                 265                 270

Gly Lys Tyr Tyr Cys Arg Ala Asp Asn Gly His Val Pro Ile Gln
                275                 280                 285

Ser Lys Val Val Asn Ile Pro Val Arg Ile Pro Val Ser Arg Pro
                290                 295                 300

Val Leu Thr Leu Arg Ser Pro Gly Ala Gln Ala Ala Val Gly Asp
                305                 310                 315

Leu Leu Glu Leu His Cys Glu Ala Leu Arg Gly Ser Pro Pro Ile
                320                 325                 330

Leu Tyr Gln Phe Tyr His Glu Asp Val Thr Leu Gly Asn Ser Ser
                335                 340                 345

Ala Pro Ser Gly Gly Gly Ala Ser Phe Asn Leu Ser Leu Thr Ala
                350                 355                 360

Glu His Ser Gly Asn Tyr Ser Cys Glu Ala Asn Asn Gly Leu Gly
                365                 370                 375

Ala Gln Cys Ser Glu Ala Val Pro Val Ser Ile Ser Gly Pro Asp
                380                 385                 390

Gly Tyr Arg Arg Asp Leu Met Thr Ala Gly Val Leu Trp Gly Leu
                395                 400                 405

Phe Gly Val Leu Gly Phe Thr Gly Val Ala Leu Leu Leu Tyr Ala
                410                 415                 420

Leu Phe His Lys Ile Ser Gly Glu Ser Ser Ala Thr Asn Glu Pro
                425                 430                 435

Arg Gly Ala Ser Arg Pro Asn Pro Gln Glu Phe Thr Tyr Ser Ser
                440                 445                 450

Pro Thr Pro Asp Met Glu Glu Leu Gln Pro Val Tyr Val Asn Val
                455                 460                 465

Gly Ser Val Asp Val Asp Val Val Tyr Ser Gln Val Trp Ser Met
                470                 475                 480

Gln Gln Pro Glu Ser Ser Ala Asn Ile Arg Thr Leu Leu Glu Asn
                485                 490                 495

Lys Asp Ser Gln Val Ile Tyr Ser Ser Val Lys Lys Ser
                500                 505

<210> 120
<211> 386
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```
<212> PRT
<213> Homo sapien

<400> 120
 Leu Arg Gln Gly Leu Ser Gly Gly Gly Gly Ser Leu Ala Ser Gly
  1                5                  10                  15

 Gly Pro Gly Pro Gly His Ala Ser Leu Ser Gln Arg Leu Arg Leu
                  20                  25                  30

 Tyr Leu Ala Asp Ser Trp Asn Gln Cys Asp Leu Val Ala Leu Thr
                  35                  40                  45

 Cys Phe Leu Leu Gly Val Gly Cys Arg Leu Thr Pro Gly Leu Tyr
                  50                  55                  60

 His Leu Gly Arg Thr Val Leu Cys Ile Asp Phe Met Val Phe Thr
                  65                  70                  75

 Val Arg Leu Leu His Ile Phe Thr Val Asn Lys Gln Leu Gly Pro
                  80                  85                  90

 Lys Ile Val Ile Val Ser Lys Met Met Lys Asp Val Phe Phe Phe
                  95                 100                 105

 Leu Phe Phe Leu Gly Val Trp Leu Val Ala Tyr Gly Val Ala Thr
                 110                 115                 120

 Glu Gly Leu Leu Arg Pro Arg Asp Ser Asp Phe Pro Ser Ile Leu
                 125                 130                 135

 Arg Arg Val Phe Tyr Arg Pro Tyr Leu Gln Ile Phe Gly Gln Ile
                 140                 145                 150

 Pro Gln Glu Asp Met Asp Val Ala Leu Met Glu His Ser Asn Cys
                 155                 160                 165

 Ser Ser Glu Pro Gly Phe Trp Ala His Pro Pro Gly Ala Gln Ala
                 170                 175                 180

 Gly Thr Cys Val Ser Gln Tyr Ala Asn Trp Leu Val Val Leu Leu
                 185                 190                 195

 Leu Val Ile Phe Leu Leu Val Ala Asn Ile Leu Leu Val Asn Leu
                 200                 205                 210

 Leu Ile Ala Met Phe Ser Tyr Thr Phe Gly Lys Val Gln Gly Asn
                 215                 220                 225

 Ser Asp Leu Tyr Trp Lys Ala Gln Arg Tyr Arg Leu Ile Arg Glu
                 230                 235                 240

 Phe His Ser Arg Pro Ala Leu Ala Pro Pro Phe Ile Val Ile Ser
                 245                 250                 255

 His Leu Arg Leu Leu Leu Arg Gln Leu Cys Arg Arg Pro Arg Ser
                 260                 265                 270
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```
Pro Gln Pro Ser Ser Pro Ala Leu Glu His Phe Arg Val Tyr Leu
                275                 280                 285

Ser Lys Glu Ala Glu Arg Lys Leu Leu Thr Trp Glu Ser Val His
                290                 295                 300

Lys Glu Asn Phe Leu Leu Ala Arg Ala Arg Asp Lys Arg Glu Ser
                305                 310                 315

Asp Ser Glu Arg Leu Lys Arg Thr Ser Gln Lys Val Asp Leu Ala
                320                 325                 330

Leu Lys Gln Leu Gly His Ile Arg Glu Tyr Glu Gln Arg Leu Lys
                335                 340                 345

Val Leu Glu Arg Glu Val Gln Gln Cys Ser Arg Val Leu Gly Trp
                350                 355                 360

Val Ala Glu Ala Leu Ser Arg Ser Ala Leu Leu Pro Pro Gly Gly
                365                 370                 375

Pro Pro Pro Pro Asp Leu Pro Gly Ser Lys Asp
                380                 385

<210> 121
<211> 529
<212> PRT
<213> Homo sapien

<400> 121
Met Gly Pro Ser Cys Pro Val Phe Leu Ser Phe Thr Lys Leu Ser
  1               5                  10                  15

Leu Trp Trp Leu Leu Leu Thr Pro Ala Gly Gly Glu Glu Ala Lys
                 20                  25                  30

Arg Pro Pro Pro Arg Ala Pro Gly Asp Pro Leu Ser Ser Pro Ser
                 35                  40                  45

Pro Thr Ala Leu Pro Gln Gly Gly Ser His Thr Glu Thr Glu Asp
                 50                  55                  60

Arg Leu Phe Lys His Leu Phe Arg Gly Tyr Asn Arg Trp Ala Arg
                 65                  70                  75

Pro Val Pro Asn Thr Ser Asp Val Val Ile Val Arg Phe Gly Leu
                 80                  85                  90

Ser Ile Ala Gln Leu Ile Asp Val Asp Glu Lys Asn Gln Met Met
                 95                 100                 105

Thr Thr Asn Val Trp Leu Lys Gln Glu Trp Ser Asp Tyr Lys Leu
                110                 115                 120

Arg Trp Asn Pro Ala Asp Phe Gly Asn Ile Thr Ser Leu Arg Val
                125                 130                 135

Pro Ser Glu Met Ile Trp Ile Pro Asp Ile Val Leu Tyr Asn Asn
```

```
                140                 145                 150

Ala Asp Gly Glu Phe Ala Val Thr His Met Thr Lys Ala His Leu
                155                 160                 165

Phe Ser Thr Gly Thr Val His Trp Val Pro Pro Ala Ile Tyr Lys
                170                 175                 180

Ser Ser Cys Ser Ile Asp Val Thr Phe Phe Pro Phe Asp Gln Gln
                185                 190                 195

Asn Cys Lys Met Lys Phe Gly Ser Trp Thr Tyr Asp Lys Ala Lys
                200                 205                 210

Ile Asp Leu Glu Gln Met Glu Gln Thr Val Asp Leu Lys Asp Tyr
                215                 220                 225

Trp Glu Ser Gly Glu Trp Ala Ile Val Asn Ala Thr Gly Thr Tyr
                230                 235                 240

Asn Ser Lys Lys Tyr Asp Cys Cys Ala Glu Ile Tyr Pro Asp Val
                245                 250                 255

Thr Tyr Ala Phe Val Ile Arg Arg Leu Pro Leu Phe Tyr Thr Ile
                260                 265                 270

Asn Leu Ile Ile Pro Cys Leu Leu Ile Ser Cys Leu Thr Val Leu
                275                 280                 285

Val Phe Tyr Leu Pro Ser Asp Cys Gly Glu Lys Ile Thr Leu Cys
                290                 295                 300

Ile Ser Val Leu Leu Ser Leu Thr Val Phe Leu Leu Leu Ile Thr
                305                 310                 315

Glu Ile Ile Pro Ser Thr Ser Leu Val Ile Pro Leu Ile Gly Glu
                320                 325                 330

Tyr Leu Leu Phe Thr Met Ile Phe Val Thr Leu Ser Ile Val Ile
                335                 340                 345

Thr Val Phe Val Leu Asn Val His His Arg Ser Pro Ser Thr His
                350                 355                 360

Thr Met Pro His Trp Val Arg Gly Ala Leu Leu Gly Cys Val Pro
                365                 370                 375

Arg Trp Leu Leu Met Asn Arg Pro Pro Pro Pro Val Glu Leu Cys
                380                 385                 390

His Pro Leu Arg Leu Lys Leu Ser Pro Ser Tyr His Trp Leu Glu
                395                 400                 405

Ser Asn Val Asp Ala Glu Glu Arg Glu Val Val Val Glu Glu Glu
                410                 415                 420

Asp Arg Trp Ala Cys Ala Gly His Val Ala Pro Ser Val Gly Thr
                425                 430                 435
```

Leu Cys Ser His Gly His Leu His Ser Gly Ala Ser Gly Pro Lys
440 445 450

Ala Glu Ala Leu Leu Gln Glu Gly Glu Leu Leu Leu Ser Pro His
455 460 465

Met Gln Lys Ala Leu Glu Gly Val His Tyr Ile Ala Asp His Leu
470 475 480

Arg Ser Glu Asp Ala Asp Ser Ser Val Lys Glu Asp Trp Lys Tyr
485 490 495

Val Ala Met Val Ile Asp Arg Ile Phe Leu Trp Leu Phe Ile Ile
500 505 510

Val Cys Phe Leu Gly Thr Ile Gly Leu Phe Leu Pro Pro Phe Leu
515 520 525

Ala Gly Met Ile

<210> 122
<211> 339
<212> PRT
<213> Homo sapien

<400> 122
Met Glu Ser Arg Lys Asp Ile Thr Asn Gln Glu Glu Leu Trp Lys
1 5 10 15

Met Lys Pro Arg Arg Asn Leu Glu Glu Asp Asp Tyr Leu His Lys
20 25 30

Asp Thr Gly Glu Thr Ser Met Leu Lys Arg Pro Val Leu Leu His
35 40 45

Leu His Gln Thr Ala His Ala Asp Glu Phe Asp Cys Pro Ser Glu
50 55 60

Leu Gln His Thr Gln Glu Leu Phe Pro Gln Trp His Leu Pro Ile
65 70 75

Lys Ile Ala Ala Ile Ile Ala Ser Leu Thr Phe Leu Tyr Thr Leu
80 85 90

Leu Arg Glu Val Ile His Pro Leu Ala Thr Ser His Gln Gln Tyr
95 100 105

Phe Tyr Lys Ile Pro Ile Leu Val Ile Asn Lys Val Leu Pro Met
110 115 120

Val Ser Ile Thr Leu Leu Ala Leu Val Tyr Leu Pro Gly Val Ile
125 130 135

Ala Ala Ile Val Gln Leu His Asn Gly Thr Lys Tyr Lys Lys Phe
140 145 150

Pro His Trp Leu Asp Lys Trp Met Leu Thr Arg Lys Gln Phe Gly

155 160 165

Leu Leu Ser Phe Phe Phe Ala Val Leu His Ala Ile Tyr Ser Leu
170 175 180

Ser Tyr Pro Met Arg Arg Ser Tyr Arg Tyr Lys Leu Leu Asn Trp
185 190 195

Ala Tyr Gln Gln Val Gln Gln Asn Lys Glu Asp Ala Trp Ile Glu
200 205 210

His Asp Val Trp Arg Met Glu Ile Tyr Val Ser Leu Gly Ile Val
215 220 225

Gly Leu Ala Ile Leu Ala Leu Leu Ala Val Thr Ser Ile Pro Ser
230 235 240

Val Ser Asp Ser Leu Thr Trp Arg Glu Phe His Tyr Ile Gln Ser
245 250 255

Lys Leu Gly Ile Val Ser Leu Leu Leu Gly Thr Ile His Ala Leu
260 265 270

Ile Phe Ala Trp Asn Lys Trp Ile Asp Ile Lys Gln Phe Val Trp
275 280 285

Tyr Thr Pro Pro Thr Phe Met Ile Ala Val Phe Leu Pro Ile Val
290 295 300

Val Leu Ile Phe Lys Ser Ile Leu Phe Leu Pro Cys Leu Arg Lys
305 310 315

Lys Ile Leu Lys Ile Arg His Gly Trp Glu Asp Val Thr Lys Ile
320 325 330

Asn Lys Thr Glu Ile Cys Ser Gln Leu
335

<210> 123
<211> 1127
<212> PRT
<213> Homo sapien

<400> 123
Met His Asn Thr Thr Glu Lys Pro Thr Asp Ala Tyr Gly Glu Leu
1 5 10 15

Asp Phe Thr Gly Ala Gly Arg Lys His Ser Asn Phe Leu Arg Leu
20 25 30

Ser Asp Arg Thr Asp Pro Ala Ala Val Tyr Ser Leu Val Thr Arg
35 40 45

Thr Trp Gly Phe Arg Ala Pro Asn Leu Val Val Ser Val Leu Gly
50 55 60

Gly Ser Gly Gly Pro Val Leu Gln Thr Trp Leu Gln Asp Leu Leu
65 70 75

```
Arg Arg Gly Leu Val Arg Ala Ala Gln Ser Thr Gly Ala Trp Ile
                80                  85                  90

Val Thr Gly Gly Leu His Thr Gly Ile Gly Arg His Val Gly Val
                95                  100                 105

Ala Val Arg Asp His Gln Met Ala Ser Thr Gly Gly Thr Lys Val
                110                 115                 120

Val Ala Met Gly Val Ala Pro Trp Gly Val Val Arg Asn Arg Asp
                125                 130                 135

Thr Leu Ile Asn Pro Lys Gly Ser Phe Pro Ala Arg Tyr Arg Trp
                140                 145                 150

Arg Gly Asp Pro Glu Asp Gly Val Gln Phe Pro Leu Asp Tyr Asn
                155                 160                 165

Tyr Ser Ala Phe Phe Leu Val Asp Asp Gly Thr His Gly Cys Leu
                170                 175                 180

Gly Gly Glu Asn Arg Phe Arg Leu Arg Leu Glu Ser Tyr Ile Ser
                185                 190                 195

Gln Gln Lys Thr Gly Val Gly Gly Thr Gly Ile Asp Ile Pro Val
                200                 205                 210

Leu Leu Leu Leu Ile Asp Gly Asp Glu Lys Met Leu Thr Arg Ile
                215                 220                 225

Glu Asn Ala Thr Gln Ala Gln Leu Pro Cys Leu Leu Val Ala Gly
                230                 235                 240

Ser Gly Gly Ala Ala Asp Cys Leu Ala Glu Thr Leu Glu Asp Thr
                245                 250                 255

Leu Ala Pro Gly Ser Gly Gly Ala Arg Gln Gly Glu Ala Arg Asp
                260                 265                 270

Arg Ile Arg Arg Phe Phe Pro Lys Gly Asp Leu Glu Val Leu Gln
                275                 280                 285

Ala Gln Val Glu Arg Ile Met Thr Arg Lys Glu Leu Leu Thr Val
                290                 295                 300

Tyr Ser Ser Glu Asp Gly Ser Glu Glu Phe Glu Thr Ile Val Leu
                305                 310                 315

Lys Ala Leu Val Lys Ala Cys Gly Ser Ser Glu Ala Ser Ala Tyr
                320                 325                 330

Leu Asp Glu Leu Arg Leu Ala Val Ala Trp Asn Arg Val Asp Ile
                335                 340                 345

Ala Gln Ser Glu Leu Phe Arg Gly Asp Ile Gln Trp Arg Ser Phe
                350                 355                 360

His Leu Glu Ala Ser Leu Met Asp Ala Leu Leu Asn Asp Arg Pro
```

365 370 375

Glu Phe Val Arg Leu Leu Ile Ser His Gly Leu Ser Leu Gly His
380 385 390

Phe Leu Thr Pro Met Arg Leu Ala Gln Leu Tyr Ser Ala Ala Pro
395 400 405

Ser Asn Ser Leu Ile Arg Asn Leu Leu Asp Gln Ala Ser His Ser
410 415 420

Ala Gly Thr Lys Ala Pro Ala Leu Lys Gly Gly Ala Ala Glu Leu
425 430 435

Arg Pro Pro Asp Val Gly His Val Leu Arg Met Leu Leu Gly Lys
440 445 450

Met Cys Ala Pro Arg Tyr Pro Ser Gly Gly Ala Trp Asp Pro His
455 460 465

Pro Gly Gln Gly Phe Gly Glu Ser Met Tyr Leu Leu Ser Asp Lys
470 475 480

Ala Thr Ser Pro Leu Ser Leu Asp Ala Gly Leu Gly Gln Ala Pro
485 490 495

Trp Ser Asp Leu Leu Leu Trp Ala Leu Leu Leu Asn Arg Ala Gln
500 505 510

Met Ala Met Tyr Phe Trp Glu Met Gly Ser Asn Ala Val Ser Ser
515 520 525

Ala Leu Gly Ala Cys Leu Leu Leu Arg Val Met Ala Arg Leu Glu
530 535 540

Pro Asp Ala Glu Glu Ala Ala Arg Arg Lys Asp Leu Ala Phe Lys
545 550 555

Phe Glu Gly Met Gly Val Asp Leu Phe Gly Glu Cys Tyr Arg Ser
560 565 570

Ser Glu Val Arg Ala Ala Arg Leu Leu Leu Arg Arg Cys Pro Leu
575 580 585

Trp Gly Asp Ala Thr Cys Leu Gln Leu Ala Met Gln Ala Asp Ala
590 595 600

Arg Ala Phe Phe Ala Gln Asp Gly Val Gln Ser Leu Leu Thr Gln
605 610 615

Lys Trp Trp Gly Asp Met Ala Ser Thr Thr Pro Ile Trp Ala Leu
620 625 630

Val Leu Ala Phe Phe Cys Pro Pro Leu Ile Tyr Thr Arg Leu Ile
635 640 645

Thr Phe Arg Lys Ser Glu Glu Glu Pro Thr Arg Glu Glu Leu Glu
650 655 660

```
Phe Asp Met Asp Ser Val Ile Asn Gly Glu Gly Pro Val Gly Thr
                665                 670                 675

Ala Asp Pro Ala Glu Lys Thr Pro Leu Gly Val Pro Arg Gln Ser
                680                 685                 690

Gly Arg Pro Gly Cys Cys Gly Gly Arg Cys Gly Gly Arg Arg Cys
                695                 700                 705

Leu Arg Arg Trp Phe His Phe Trp Gly Ala Pro Val Thr Ile Phe
                710                 715                 720

Met Gly Asn Val Val Ser Tyr Leu Leu Phe Leu Leu Leu Phe Ser
                725                 730                 735

Arg Val Leu Leu Val Asp Phe Gln Pro Ala Pro Pro Gly Ser Leu
                740                 745                 750

Glu Leu Leu Leu Tyr Phe Trp Ala Phe Thr Leu Leu Cys Glu Glu
                755                 760                 765

Leu Arg Gln Gly Leu Ser Gly Gly Gly Gly Ser Leu Ala Ser Gly
                770                 775                 780

Gly Pro Gly Pro Gly His Ala Ser Leu Ser Gln Arg Leu Arg Leu
                785                 790                 795

Tyr Leu Ala Asp Ser Trp Asn Gln Cys Asp Leu Val Ala Leu Thr
                800                 805                 810

Cys Phe Leu Leu Gly Val Gly Cys Arg Leu Thr Pro Gly Leu Tyr
                815                 820                 825

His Leu Gly Arg Thr Val Leu Cys Ile Asp Phe Met Val Phe Thr
                830                 835                 840

Val Arg Leu Leu His Ile Phe Thr Val Asn Lys Gln Leu Gly Pro
                845                 850                 855

Lys Ile Val Ile Val Ser Lys Met Met Lys Asp Val Phe Phe Phe
                860                 865                 870

Leu Phe Phe Leu Gly Val Trp Leu Val Ala Tyr Gly Val Ala Thr
                875                 880                 885

Glu Gly Leu Leu Arg Pro Arg Asp Ser Asp Phe Pro Ser Ile Leu
                890                 895                 900

Arg Arg Val Phe Tyr Arg Pro Tyr Leu Gln Ile Phe Gly Gln Ile
                905                 910                 915

Pro Gln Glu Asp Met Asp Val Ala Leu Met Glu His Ser Asn Cys
                920                 925                 930

Ser Ser Glu Pro Gly Phe Trp Ala His Pro Pro Gly Ala Gln Ala
                935                 940                 945

Gly Thr Cys Val Ser Gln Tyr Ala Asn Trp Leu Val Val Leu Leu
```

950 955 960

Leu Val Ile Phe Leu Leu Val Ala Asn Ile Leu Leu Val Asn Leu
965 970 975

Leu Ile Ala Met Phe Ser Tyr Thr Phe Gly Lys Val Gln Gly Asn
980 985 990

Ser Asp Leu Tyr Trp Lys Ala Gln Arg Tyr Arg Leu Ile Arg Glu
995 1000 1005

Phe His Ser Arg Pro Ala Leu Ala Pro Pro Phe Ile Val Ile Ser
1010 1015 1020

His Leu Arg Leu Leu Leu Arg Gln Leu Cys Arg Arg Pro Arg Ser
1025 1030 1035

Pro Gln Pro Ser Ser Pro Ala Leu Glu His Phe Arg Val Tyr Leu
1040 1045 1050

Ser Lys Glu Ala Glu Arg Lys Leu Leu Thr Trp Glu Ser Val His
1055 1060 1065

Lys Glu Asn Phe Leu Leu Ala Arg Ala Arg Asp Lys Arg Glu Ser
1070 1075 1080

Asp Ser Glu Arg Leu Glu Arg Thr Ser Gln Lys Val Asp Leu Ala
1085 1090 1095

Leu Lys Gln Leu Gly His Ile Arg Glu Tyr Glu Gln Arg Leu Lys
1100 1105 1110

Val Leu Glu Arg Glu Val Gln Gln Cys Ser Arg Val Leu Gly Trp
1115 1120 1125

Val Thr

<210> 124
<211> 1932
<212> PRT
<213> Homo sapien

<400> 124
Met His Leu His Arg Arg Phe Thr Asp Leu Ile Trp Lys Asn Leu
1 5 10 15

Cys Pro Ala Leu Ile Val Ile Leu Gly Asn Pro Ile His Asp Lys
20 25 30

Thr Ile Thr Ser Ala His Thr Ser Ser Thr Ser Thr Ser Leu Glu
35 40 45

Ser Asp Ser Ala Ser Pro Gly Val Ser Asp His Gly Arg Gly Ser
50 55 60

Gly Cys Ser Cys Thr Ala Pro Ala Leu Ser Gly Pro Val Ala Arg
65 70 75

```
Thr Ile Tyr Tyr Ile Ala Ala Glu Leu Val Arg Leu Val Gly Ser
                80                  85                  90

Val Asp Ser Met Lys Pro Val Leu Gln Ser Leu Tyr His Arg Val
                95                  100                 105

Leu Leu Tyr Pro Pro Pro Gln His Arg Val Glu Ala Ile Lys Ile
                110                 115                 120

Met Lys Glu Ile Leu Gly Ser Pro Gln Arg Leu Cys Asp Leu Ala
                125                 130                 135

Gly Pro Ser Ser Thr Glu Ser Glu Ser Arg Lys Arg Ser Ile Ser
                140                 145                 150

Lys Arg Lys Ser His Leu Asp Leu Leu Lys Leu Ile Met Asp Gly
                155                 160                 165

Met Thr Glu Ala Cys Ile Lys Gly Gly Ile Glu Ala Cys Tyr Ala
                170                 175                 180

Ala Val Ser Cys Val Cys Thr Leu Leu Gly Ala Leu Asp Glu Leu
                185                 190                 195

Ser Gln Gly Lys Gly Leu Ser Glu Gly Gln Val Gln Leu Leu Leu
                200                 205                 210

Leu Arg Leu Glu Glu Leu Lys Asp Gly Ala Glu Trp Ser Arg Asp
                215                 220                 225

Ser Met Glu Ile Asn Glu Ala Asp Phe Arg Trp Gln Arg Arg Val
                230                 235                 240

Leu Ser Ser Glu His Thr Pro Trp Glu Ser Gly Asn Glu Arg Ser
                245                 250                 255

Leu Asp Ile Ser Ile Ser Val Thr Thr Asp Thr Gly Gln Thr Thr
                260                 265                 270

Leu Glu Gly Glu Leu Gly Gln Thr Thr Pro Glu Asp His Ser Gly
                275                 280                 285

Asn His Lys Asn Ser Leu Lys Ser Pro Ala Ile Pro Glu Gly Lys
                290                 295                 300

Glu Thr Leu Ser Lys Val Leu Glu Thr Glu Ala Val Asp Gln Pro
                305                 310                 315

Asp Val Val Gln Arg Ser His Thr Val Pro Tyr Pro Asp Ile Thr
                320                 325                 330

Asn Phe Leu Ser Val Asp Cys Arg Thr Arg Ser Tyr Gly Ser Arg
                335                 340                 345

Tyr Ser Glu Ser Asn Phe Ser Val Asp Asp Gln Asp Leu Ser Arg
                350                 355                 360

Thr Glu Phe Asp Ser Cys Asp Gln Tyr Ser Met Ala Ala Glu Lys
```

365 370 375

Asp Ser Gly Arg Ser Asp Val Ser Asp Ile Gly Ser Asp Asn Cys
380 385 390

Ser Leu Ala Asp Glu Glu Gln Thr Pro Arg Asp Cys Leu Gly His
395 400 405

Arg Ser Leu Arg Thr Ala Ala Leu Ser Leu Lys Leu Leu Lys Asn
410 415 420

Gln Glu Ala Asp Gln His Ser Ala Arg Leu Phe Ile Gln Ser Leu
425 430 435

Glu Gly Leu Leu Pro Arg Leu Leu Ser Leu Ser Asn Val Glu Glu
440 445 450

Val Asp Thr Ala Leu Gln Asn Phe Ala Ser Thr Phe Cys Ser Gly
455 460 465

Met Met His Ser Pro Gly Phe Asp Gly Asn Ser Ser Leu Ser Phe
470 475 480

Gln Met Leu Met Asn Ala Asp Ser Leu Tyr Thr Ala Ala His Cys
485 490 495

Ala Leu Leu Leu Asn Leu Lys Leu Ser His Gly Asp Tyr Tyr Arg
500 505 510

Lys Arg Pro Thr Leu Ala Pro Gly Val Met Lys Asp Phe Met Lys
515 520 525

Gln Val Gln Thr Ser Gly Val Leu Met Val Phe Ser Gln Ala Trp
530 535 540

Ile Glu Glu Leu Tyr His Gln Val Leu Asp Arg Asn Met Leu Gly
545 550 555

Glu Ala Gly Tyr Trp Gly Ser Pro Glu Asp Asn Ser Leu Pro Leu
560 565 570

Ile Thr Met Leu Thr Asp Ile Asp Gly Leu Glu Ser Ser Ala Ile
575 580 585

Gly Gly Gln Leu Met Ala Ser Ala Ala Thr Glu Ser Pro Phe Ala
590 595 600

Gln Ser Arg Arg Ile Asp Asp Ser Thr Val Ala Gly Val Ala Phe
605 610 615

Ala Arg Tyr Ile Leu Val Gly Cys Trp Lys Asn Leu Ile Asp Thr
620 625 630

Leu Ser Thr Pro Leu Thr Gly Arg Met Ala Gly Ser Ser Lys Gly
635 640 645

Leu Ala Phe Ile Leu Gly Ala Glu Gly Ile Lys Glu Gln Asn Gln
650 655 660

```
Lys Glu Arg Asp Ala Ile Cys Met Ser Leu Asp Gly Leu Arg Lys
                665                 670                 675

Ala Ala Arg Leu Ser Cys Ala Leu Gly Val Ala Ala Asn Cys Ala
                680                 685                 690

Ser Ala Leu Ala Gln Met Ala Ala Ala Ser Cys Val Gln Glu Glu
                695                 700                 705

Lys Glu Glu Arg Glu Ala Gln Glu Pro Ser Asp Ala Ile Thr Gln
                710                 715                 720

Val Lys Leu Lys Val Glu Gln Lys Leu Glu Gln Ile Gly Lys Val
                725                 730                 735

Gln Gly Val Trp Leu His Thr Ala His Val Leu Cys Met Glu Ala
                740                 745                 750

Ile Leu Ser Val Gly Leu Glu Met Gly Ser His Asn Pro Asp Cys
                755                 760                 765

Trp Pro His Val Phe Arg Val Cys Glu Tyr Val Gly Thr Leu Glu
                770                 775                 780

His Asn His Phe Ser Asp Gly Ala Ser Gln Pro Pro Leu Thr Ile
                785                 790                 795

Ser Gln Pro Gln Lys Ala Thr Gly Ser Ala Gly Leu Leu Gly Asp
                800                 805                 810

Pro Glu Cys Glu Gly Ser Pro Pro Glu His Ser Pro Glu Gln Gly
                815                 820                 825

Arg Ser Leu Ser Thr Ala Pro Val Val Gln Pro Leu Ser Ile Gln
                830                 835                 840

Asp Leu Val Arg Glu Gly Ser Arg Gly Arg Ala Ser Asp Phe Arg
                845                 850                 855

Gly Gly Ser Leu Met Ser Gly Ser Ser Ala Ala Lys Val Val Leu
                860                 865                 870

Thr Leu Ser Thr Gln Ala Asp Arg Leu Phe Glu Asp Ala Thr Asp
                875                 880                 885

Lys Leu Asn Leu Met Ala Leu Gly Gly Phe Leu Tyr Gln Leu Lys
                890                 895                 900

Lys Ala Ser Gln Ser Gln Leu Phe His Ser Val Thr Asp Thr Val
                905                 910                 915

Asp Tyr Ser Leu Ala Met Pro Gly Glu Val Lys Ser Thr Gln Asp
                920                 925                 930

Arg Lys Ser Ala Leu His Leu Phe Arg Leu Gly Asn Ala Met Leu
                935                 940                 945

Arg Ile Val Arg Ser Lys Ala Arg Pro Leu Leu His Val Met Arg
```

950 955 960

Cys Trp Ser Leu Val Ala Pro His Leu Val Glu Ala Ala Cys His
965 970 975

Lys Glu Arg His Val Ser Gln Lys Ala Val Ser Phe Ile His Asp
980 985 990

Ile Leu Thr Glu Val Leu Thr Asp Trp Asn Glu Pro Pro His Phe
995 1000 1005

His Phe Asn Glu Ala Leu Phe Arg Pro Phe Glu Arg Ile Met Gln
1010 1015 1020

Leu Glu Leu Cys Asp Glu Asp Val Gln Asp Gln Val Val Thr Ser
1025 1030 1035

Ile Gly Glu Leu Val Glu Val Cys Ser Thr Gln Ile Gln Ser Gly
1040 1045 1050

Trp Arg Pro Leu Phe Ser Ala Leu Glu Thr Val His Gly Gly Asn
1055 1060 1065

Lys Ser Glu Met Lys Glu Tyr Leu Val Gly Asp Tyr Ser Met Gly
1070 1075 1080

Lys Gly Gln Ala Pro Val Phe Asp Val Phe Glu Ala Phe Leu Asn
1085 1090 1095

Thr Asp Asn Ile Gln Val Phe Ala Asn Ala Ala Thr Ser Tyr Ile
1100 1105 1110

Met Cys Leu Met Lys Phe Val Lys Gly Leu Gly Glu Val Asp Cys
1115 1120 1125

Lys Glu Ile Gly Asp Cys Ala Pro Ala Pro Gly Ala Pro Ser Thr
1130 1135 1140

Asp Leu Cys Leu Pro Ala Leu Asp Tyr Leu Arg Arg Cys Ser Gln
1145 1150 1155

Leu Leu Ala Lys Ile Tyr Lys Met Pro Leu Lys Pro Ile Phe Leu
1160 1165 1170

Ser Gly Arg Leu Ala Gly Leu Pro Arg Arg Leu Gln Glu Gln Ser
1175 1180 1185

Ala Ser Ser Glu Asp Gly Ile Glu Ser Val Leu Ser Asp Phe Asp
1190 1195 1200

Asp Asp Thr Gly Leu Ile Glu Val Trp Ile Ile Leu Leu Glu Gln
1205 1210 1215

Leu Thr Ala Ala Val Ser Asn Cys Pro Arg Gln His Gln Pro Pro
1220 1225 1230

Thr Leu Asp Leu Leu Phe Glu Leu Leu Arg Asp Val Thr Lys Thr
1235 1240 1245

```
Pro Gly Pro Gly Phe Gly Ile Tyr Ala Val Val His Leu Leu Leu
                1250                1255                1260

Pro Val Met Ser Val Trp Leu Arg Arg Ser His Lys Asp His Ser
                1265                1270                1275

Tyr Trp Asp Met Ala Ser Ala Asn Phe Lys His Ala Ile Gly Leu
                1280                1285                1290

Ser Cys Glu Leu Val Val Glu His Ile Gln Ser Phe Leu His Ser
                1295                1300                1305

Asp Ile Arg Tyr Glu Ser Met Ile Asn Thr Met Leu Lys Asp Leu
                1310                1315                1320

Phe Glu Leu Leu Val Ala Cys Val Ala Lys Pro Thr Glu Thr Ile
                1325                1330                1335

Ser Arg Val Gly Cys Ser Cys Ile Arg Tyr Val Leu Val Thr Ala
                1340                1345                1350

Gly Pro Val Phe Thr Glu Glu Met Trp Arg Leu Ala Cys Cys Ala
                1355                1360                1365

Leu Gln Asp Ala Phe Ser Ala Thr Leu Lys Pro Val Lys Asp Leu
                1370                1375                1380

Leu Gly Cys Phe His Ser Gly Thr Glu Ser Phe Ser Gly Glu Gly
                1385                1390                1395

Cys Gln Val Arg Val Ala Ala Pro Ser Ser Ser Pro Ser Ala Glu
                1400                1405                1410

Ala Glu Tyr Trp Arg Ile Arg Ala Met Ala Gln Gln Val Phe Met
                1415                1420                1425

Leu Asp Thr Gln Cys Ser Pro Lys Thr Pro Asn Asn Phe Asp His
                1430                1435                1440

Ala Gln Ser Cys Gln Leu Ile Ile Glu Leu Pro Pro Asp Glu Lys
                1445                1450                1455

Pro Asn Gly His Thr Lys Lys Ser Val Ser Phe Arg Glu Ile Val
                1460                1465                1470

Val Ser Leu Leu Ser His Gln Val Leu Leu Gln Asn Leu Tyr Asp
                1475                1480                1485

Ile Leu Leu Glu Glu Phe Val Lys Gly Pro Ser Pro Gly Glu Glu
                1490                1495                1500

Lys Thr Ile Gln Val Pro Glu Ala Lys Leu Ala Gly Phe Leu Arg
                1505                1510                1515

Tyr Ile Ser Met Gln Asn Leu Ala Val Ile Phe Asp Leu Leu Leu
                1520                1525                1530

Asp Ser Tyr Arg Thr Ala Arg Glu Phe Asp Thr Ser Pro Gly Leu
```

1535 1540 1545

Lys Cys Leu Leu Lys Lys Val Ser Gly Ile Gly Gly Ala Ala Asn
1550 1555 1560

Leu Tyr Arg Gln Ser Ala Met Ser Phe Asn Ile Tyr Phe His Ala
1565 1570 1575

Leu Val Cys Ala Val Leu Thr Asn Gln Glu Thr Ile Thr Ala Glu
1580 1585 1590

Gln Val Lys Lys Val Leu Phe Glu Asp Asp Glu Arg Ser Thr Asp
1595 1600 1605

Ser Ser Gln Gln Cys Ser Ser Glu Asp Glu Asp Ile Phe Glu Glu
1610 1615 1620

Thr Ala Gln Val Ser Pro Pro Arg Gly Lys Glu Lys Arg Gln Trp
1625 1630 1635

Arg Ala Arg Met Pro Leu Leu Ser Val Gln Pro Val Ser Asn Ala
1640 1645 1650

Asp Trp Val Trp Leu Val Lys Arg Leu His Lys Leu Cys Met Glu
1655 1660 1665

Leu Cys Asn Asn Tyr Ile Gln Met His Leu Asp Leu Glu Asn Cys
1670 1675 1680

Met Glu Glu Pro Pro Ile Phe Lys Gly Asp Pro Phe Phe Ile Leu
1685 1690 1695

Pro Ser Phe Gln Ser Glu Ser Ser Thr Pro Ser Thr Gly Gly Phe
1700 1705 1710

Ser Gly Lys Glu Thr Pro Ser Glu Asp Asp Arg Ser Gln Ser Arg
1715 1720 1725

Glu His Met Gly Glu Ser Leu Ser Leu Lys Ala Gly Gly Gly Asp
1730 1735 1740

Leu Leu Leu Pro Pro Ser Pro Lys Val Glu Lys Lys Asp Pro Ser
1745 1750 1755

Arg Lys Lys Glu Trp Trp Glu Asn Ala Gly Asn Lys Ile Tyr Thr
1760 1765 1770

Met Ala Ala Asp Lys Thr Ile Ser Lys Leu Met Thr Glu Tyr Lys
1775 1780 1785

Lys Arg Lys Gln Gln His Asn Leu Ser Ala Phe Pro Lys Glu Val
1790 1795 1800

Lys Val Glu Lys Lys Gly Glu Pro Leu Gly Pro Arg Gly Gln Asp
1805 1810 1815

Ser Pro Leu Leu Gln Arg Pro Gln His Leu Met Asp Gln Gly Gln
1820 1825 1830

Met Arg His Ser Phe Ser Ala Gly Pro Glu Leu Leu Arg Gln Asp
1835 1840 1845

Lys Arg Pro Arg Ser Gly Ser Thr Gly Ser Ser Leu Ser Val Ser
1850 1855 1860

Val Arg Asp Ala Glu Ala Gln Ile Gln Ala Trp Thr Asn Met Val
1865 1870 1875

Leu Thr Val Leu Asn Gln Ile Gln Ile Leu Pro Asp Gln Thr Phe
1880 1885 1890

Thr Ala Leu Gln Pro Ala Val Phe Pro Cys Ile Ser Gln Leu Thr
1895 1900 1905

Cys His Val Thr Asp Ile Arg Val Arg Gln Ala Val Arg Glu Trp
1910 1915 1920

Leu Gly Arg Val Gly Arg Val Tyr Asp Ile Ile Val
1925 1930

<210> 125
<211> 317
<212> PRT
<213> Homo sapien

<400> 125
Met Val Asp Pro Asn Gly Asn Glu Ser Ser Ala Thr Tyr Phe Ile
1 5 10 15

Leu Ile Gly Leu Pro Gly Leu Glu Glu Ala Gln Phe Trp Leu Ala
20 25 30

Phe Pro Leu Cys Ser Leu Tyr Leu Ile Ala Val Leu Gly Asn Leu
35 40 45

Thr Ile Ile Tyr Ile Val Arg Thr Glu His Ser Leu His Glu Pro
50 55 60

Met Tyr Ile Phe Leu Cys Met Leu Ser Gly Ile Asp Ile Leu Ile
65 70 75

Ser Thr Ser Ser Met Pro Lys Met Leu Ala Ile Phe Trp Phe Asn
80 85 90

Ser Thr Thr Ile Gln Phe Asp Ala Cys Leu Leu Gln Ile Phe Ala
95 100 105

Ile His Ser Leu Ser Gly Met Glu Ser Thr Val Leu Leu Ala Met
110 115 120

Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro Leu Arg His Ala
125 130 135

Thr Val Leu Thr Leu Pro Arg Val Thr Lys Ile Gly Val Ala Ala
140 145 150

Val Val Arg Gly Ala Ala Leu Met Ala Pro Leu Pro Val Phe Ile

155 160 165

Lys Gln Leu Pro Phe Cys Arg Ser Asn Ile Leu Ser His Ser Tyr
170 175 180

Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Asp Asp Ile Arg
185 190 195

Val Asn Val Val Tyr Gly Leu Ile Val Ile Ile Ser Ala Ile Gly
200 205 210

Leu Asp Ser Leu Leu Ile Ser Phe Ser Tyr Leu Leu Ile Leu Lys
215 220 225

Thr Val Leu Gly Leu Thr Arg Glu Ala Gln Ala Lys Ala Phe Gly
230 235 240

Thr Cys Val Ser His Val Cys Ala Val Phe Ile Phe Tyr Val Pro
245 250 255

Phe Ile Gly Leu Ser Met Val His Arg Phe Ser Lys Arg Arg Asp
260 265 270

Ser Pro Leu Pro Val Ile Leu Ala Asn Ile Tyr Leu Leu Val Pro
275 280 285

Pro Val Leu Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Glu Ile
290 295 300

Arg Gln Arg Ile Leu Arg Leu Phe His Val Ala Thr His Ala Ser
305 310 315

Glu Pro

<210> 126
<211> 530
<212> PRT
<213> Homo sapien

<400> 126
Met Gly Ser Asn Ser Gly Gln Ala Gly Arg His Ile Tyr Lys Ser
1 5 10 15

Leu Ala Asp Asp Gly Pro Phe Asp Ser Val Glu Pro Pro Lys Arg
20 25 30

Pro Thr Ser Arg Leu Ile Met His Ser Met Ala Met Phe Gly Arg
35 40 45

Glu Phe Cys Tyr Ala Val Glu Ala Ala Tyr Val Thr Pro Val Leu
50 55 60

Leu Ser Val Gly Leu Pro Ser Ser Leu Tyr Ser Ile Val Trp Phe
65 70 75

Leu Ser Pro Ile Leu Gly Phe Leu Leu Gln Pro Val Val Gly Ser
80 85 90

```
Ala Ser Asp His Cys Arg Ser Arg Trp Gly Arg Arg Arg Pro Tyr
                95                  100                 105

Ile Leu Thr Leu Gly Val Met Met Leu Val Gly Met Ala Leu Tyr
                110                 115                 120

Leu Asn Gly Ala Thr Val Val Ala Ala Leu Ile Ala Asn Pro Arg
                125                 130                 135

Arg Lys Leu Val Trp Ala Ile Ser Val Thr Met Ile Gly Val Val
                140                 145                 150

Leu Phe Asp Phe Ala Ala Asp Phe Ile Asp Gly Pro Ile Lys Ala
                155                 160                 165

Tyr Leu Phe Asp Val Cys Ser His Gln Asp Lys Glu Lys Gly Leu
                170                 175                 180

His Tyr His Ala Leu Phe Thr Gly Phe Gly Gly Ala Leu Gly Tyr
                185                 190                 195

Leu Leu Gly Ala Ile Asp Trp Ala His Leu Glu Leu Gly Arg Leu
                200                 205                 210

Leu Gly Thr Glu Phe Gln Val Met Phe Phe Phe Ser Ala Leu Val
                215                 220                 225

Leu Thr Leu Cys Phe Thr Val His Leu Cys Ser Ile Ser Glu Ala
                230                 235                 240

Pro Leu Thr Glu Val Ala Lys Gly Ile Pro Pro Gln Gln Thr Pro
                245                 250                 255

Gln Asp Pro Pro Leu Ser Ser Asp Gly Met Tyr Glu Tyr Gly Ser
                260                 265                 270

Ile Glu Lys Val Lys Asn Gly Tyr Val Asn Pro Glu Leu Ala Met
                275                 280                 285

Gln Gly Ala Lys Asn Lys Asn His Ala Glu Gln Thr Arg Arg Ala
                290                 295                 300

Met Thr Leu Lys Ser Leu Leu Arg Ala Leu Val Asn Met Pro Pro
                305                 310                 315

His Tyr Arg Tyr Leu Cys Ile Ser His Leu Ile Gly Trp Thr Ala
                320                 325                 330

Phe Leu Ser Asn Met Leu Phe Phe Thr Asp Phe Met Gly Gln Ile
                335                 340                 345

Val Tyr Arg Gly Asp Pro Tyr Ser Ala His Asn Ser Thr Glu Phe
                350                 355                 360

Leu Ile Tyr Glu Arg Gly Val Glu Val Gly Cys Trp Gly Phe Cys
                365                 370                 375

Ile Asn Ser Val Phe Ser Ser Leu Tyr Ser Tyr Phe Gln Lys Val
```

380 385 390

Leu Val Ser Tyr Ile Gly Leu Lys Gly Leu Tyr Phe Thr Gly Tyr
395 400 405

Leu Leu Phe Gly Leu Gly Thr Gly Phe Ile Gly Leu Phe Pro Asn
410 415 420

Val Tyr Ser Thr Leu Val Leu Cys Ser Leu Phe Gly Val Met Ser
425 430 435

Ser Thr Leu Tyr Thr Val Pro Phe Asn Leu Ile Thr Glu Tyr His
440 445 450

Arg Glu Glu Glu Lys Glu Arg Gln Gln Ala Pro Gly Gly Asp Pro
455 460 465

Asp Asn Ser Val Arg Gly Lys Gly Met Asp Cys Ala Thr Leu Thr
470 475 480

Cys Met Val Gln Leu Ala Gln Ile Leu Val Gly Gly Gly Leu Gly
485 490 495

Phe Leu Val Asn Thr Ala Gly Thr Val Val Val Val Val Ile Thr
500 505 510

Ala Ser Ala Val Ala Leu Ile Gly Cys Cys Phe Val Ala Leu Phe
515 520 525

Val Arg Tyr Val Asp
530

<210> 127
<211> 811
<212> PRT
<213> Homo sapien

<400> 127
Met Arg Leu Ile Arg Asn Ile Tyr Ile Phe Cys Ser Ile Val Met
1 5 10 15

Thr Ala Glu Gly Asp Ala Pro Glu Leu Pro Glu Glu Arg Glu Leu
20 25 30

Met Thr Asn Cys Ser Asn Met Ser Leu Arg Lys Val Pro Ala Asp
35 40 45

Leu Thr Pro Ala Thr Thr Thr Leu Asp Leu Ser Tyr Asn Leu Leu
50 55 60

Phe Gln Leu Gln Ser Ser Asp Phe His Ser Val Ser Lys Leu Arg
65 70 75

Val Leu Ile Leu Cys His Asn Arg Ile Gln Gln Leu Asp Leu Lys
80 85 90

Thr Phe Glu Phe Asn Lys Glu Leu Arg Tyr Leu Asp Leu Ser Asn
95 100 105

```
Asn Arg Leu Lys Ser Val Thr Trp Tyr Leu Leu Ala Gly Leu Arg
                110                 115                 120

Tyr Leu Asp Leu Ser Phe Asn Asp Phe Asp Thr Met Pro Ile Cys
                125                 130                 135

Glu Glu Ala Gly Asn Met Ser His Leu Glu Ile Leu Gly Leu Ser
                140                 145                 150

Gly Ala Lys Ile Gln Lys Ser Asp Phe Gln Lys Ile Ala His Leu
                155                 160                 165

His Leu Asn Thr Val Phe Leu Gly Phe Arg Thr Leu Pro His Tyr
                170                 175                 180

Glu Glu Gly Ser Leu Pro Ile Leu Asn Thr Thr Lys Leu His Ile
                185                 190                 195

Val Leu Pro Met Asp Thr Asn Phe Trp Val Leu Leu Arg Asp Gly
                200                 205                 210

Ile Lys Thr Ser Lys Ile Leu Glu Met Thr Asn Ile Asp Gly Lys
                215                 220                 225

Ser Gln Phe Val Ser Tyr Glu Met Gln Arg Asn Leu Ser Leu Glu
                230                 235                 240

Asn Ala Lys Thr Ser Val Leu Leu Leu Asn Lys Val Asp Leu Leu
                245                 250                 255

Trp Asp Asp Leu Phe Leu Ile Leu Gln Phe Val Trp His Thr Ser
                260                 265                 270

Val Glu His Phe Gln Ile Arg Asn Val Thr Phe Gly Gly Lys Ala
                275                 280                 285

Tyr Leu Asp His Asn Ser Phe Asp Tyr Ser Asn Thr Val Met Arg
                290                 295                 300

Thr Ile Lys Leu Glu His Val His Phe Arg Val Phe Tyr Ile Gln
                305                 310                 315

Gln Asp Lys Ile Tyr Leu Leu Leu Thr Lys Met Asp Ile Glu Asn
                320                 325                 330

Leu Thr Ile Ser Asn Ala Gln Met Pro His Met Leu Phe Pro Asn
                335                 340                 345

Tyr Pro Thr Lys Phe Gln Tyr Leu Asn Phe Ala Asn Asn Ile Leu
                350                 355                 360

Thr Asp Glu Leu Phe Lys Arg Thr Ile Gln Leu Pro His Leu Lys
                365                 370                 375

Thr Leu Ile Leu Asn Gly Asn Lys Leu Glu Thr Leu Ser Leu Val
                380                 385                 390

Ser Cys Phe Ala Asn Asn Thr Pro Leu Glu His Leu Asp Leu Ser
```

395 400 405

Gln Asn Leu Leu Gln His Lys Asn Asp Glu Asn Cys Ser Trp Pro
410 415 420

Glu Thr Val Val Asn Met Asn Leu Ser Tyr Asn Lys Leu Ser Asp
425 430 435

Ser Val Phe Arg Cys Leu Pro Lys Ser Ile Gln Ile Leu Asp Leu
440 445 450

Asn Asn Asn Gln Ile Gln Thr Val Pro Lys Glu Thr Ile His Leu
455 460 465

Met Ala Leu Arg Glu Leu Asn Ile Ala Phe Asn Phe Leu Thr Asp
470 475 480

Leu Pro Gly Cys Ser His Phe Ser Arg Leu Ser Val Leu Asn Ile
485 490 495

Glu Met Asn Phe Ile Leu Ser Pro Ser Leu Asp Phe Val Gln Ser
500 505 510

Cys Gln Glu Val Lys Thr Leu Asn Ala Gly Arg Asn Pro Phe Arg
515 520 525

Cys Thr Cys Glu Leu Lys Asn Phe Ile Gln Leu Glu Thr Tyr Ser
530 535 540

Glu Val Met Met Val Gly Trp Ser Asp Ser Tyr Thr Cys Glu Tyr
545 550 555

Pro Leu Asn Leu Arg Gly Thr Arg Leu Lys Asp Val His Leu His
560 565 570

Glu Leu Ser Cys Asn Thr Ala Leu Leu Ile Val Thr Ile Val Val
575 580 585

Ile Met Leu Val Leu Gly Leu Ala Val Ala Phe Cys Cys Leu His
590 595 600

Phe Asp Leu Pro Trp Tyr Leu Arg Met Leu Gly Gln Cys Thr Gln
605 610 615

Thr Trp His Arg Val Arg Lys Thr Thr Gln Glu Gln Leu Lys Arg
620 625 630

Asn Val Arg Phe His Ala Phe Ile Ser Tyr Ser Glu His Asp Ser
635 640 645

Leu Trp Val Lys Asn Glu Leu Ile Pro Asn Leu Glu Lys Glu Asp
650 655 660

Gly Ser Ile Leu Ile Cys Leu Tyr Glu Ser Tyr Phe Asp Pro Gly
665 670 675

Lys Ser Ile Ser Glu Asn Ile Val Ser Phe Ile Glu Lys Ser Tyr
680 685 690

```
Lys Ser Ile Phe Val Leu Ser Pro Asn Phe Val Gln Asn Glu Trp
                695                 700                 705

Cys His Tyr Glu Phe Tyr Phe Ala His His Asn Leu Phe His Glu
                710                 715                 720

Asn Ser Asp His Ile Ile Leu Ile Leu Leu Glu Pro Ile Pro Phe
                725                 730                 735

Tyr Cys Ile Pro Thr Arg Tyr His Lys Leu Lys Ala Leu Leu Glu
                740                 745                 750

Lys Lys Ala Tyr Leu Glu Trp Pro Lys Asp Arg Arg Lys Cys Gly
                755                 760                 765

Leu Phe Trp Ala Asn Leu Arg Ala Ala Ile Asn Val Asn Val Leu
                770                 775                 780

Ala Thr Arg Glu Met Tyr Glu Leu Gln Thr Phe Thr Glu Leu Asn
                785                 790                 795

Glu Glu Ser Arg Gly Ser Thr Ile Ser Leu Met Arg Thr Asp Cys
                800                 805                 810

Leu


<210> 128
<211> 1382
<212> PRT
<213> Homo sapien

<400> 128
Met Thr Arg Lys Arg Thr Tyr Trp Val Pro Asn Ser Ser Gly Gly
 1               5                  10                  15

Leu Val Asn Arg Gly Ile Asp Ile Gly Asp Asp Met Val Ser Gly
                20                  25                  30

Leu Ile Tyr Lys Thr Tyr Thr Leu Gln Asp Gly Pro Trp Ser Gln
                35                  40                  45

Gln Glu Arg Asn Pro Glu Ala Pro Gly Arg Ala Ala Val Pro Pro
                50                  55                  60

Trp Gly Lys Tyr Asp Ala Ala Leu Arg Thr Met Ile Pro Phe Arg
                65                  70                  75

Pro Lys Pro Arg Phe Pro Ala Pro Gln Pro Leu Asp Asn Ala Gly
                80                  85                  90

Leu Phe Ser Tyr Leu Thr Val Ser Trp Leu Thr Pro Leu Met Ile
                95                  100                 105

Gln Ser Leu Arg Ser Arg Leu Asp Glu Asn Thr Ile Pro Pro Leu
                110                 115                 120

Ser Val His Asp Ala Ser Asp Lys Asn Val Gln Arg Leu His Arg
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                    125                     130                     135

Leu Trp Glu Glu Glu Val Ser Arg Arg Gly Ile Glu Lys Ala Ser
                140                     145                     150

Val Leu Leu Val Met Leu Arg Phe Gln Arg Thr Arg Leu Ile Phe
                155                     160                     165

Asp Ala Leu Leu Gly Ile Cys Phe Cys Ile Ala Ser Val Leu Gly
                170                     175                     180

Pro Ile Leu Ile Ile Pro Lys Ile Leu Glu Tyr Ser Glu Glu Gln
                185                     190                     195

Leu Gly Asn Val Val His Gly Val Gly Leu Cys Phe Ala Leu Phe
                200                     205                     210

Leu Ser Glu Cys Val Lys Ser Leu Ser Phe Ser Ser Ser Trp Ile
                215                     220                     225

Ile Asn Gln Arg Thr Ala Ile Arg Phe Arg Ala Ala Val Ser Ser
                230                     235                     240

Phe Ala Phe Glu Lys Leu Ile Gln Phe Lys Ser Val Ile His Ile
                245                     250                     255

Thr Ser Gly Glu Ala Ile Ser Phe Phe Thr Gly Asp Val Asn Tyr
                260                     265                     270

Leu Phe Glu Gly Val Cys Tyr Gly Pro Leu Val Leu Ile Thr Cys
                275                     280                     285

Ala Ser Leu Val Ile Cys Ser Ile Ser Ser Tyr Phe Ile Ile Gly
                290                     295                     300

Tyr Thr Ala Phe Ile Ala Ile Leu Cys Tyr Pro Leu Val Phe Pro
                305                     310                     315

Leu Glu Val Phe Met Thr Arg Met Ala Val Lys Ala Gln His His
                320                     325                     330

Thr Ser Glu Val Ser Asp Gln Arg Ile Arg Val Thr Ser Glu Val
                335                     340                     345

Leu Thr Cys Ile Lys Leu Ile Lys Met Tyr Thr Trp Glu Lys Pro
                350                     355                     360

Phe Ala Lys Ile Ile Glu Asp Leu Arg Arg Lys Glu Arg Lys Leu
                365                     370                     375

Leu Glu Lys Cys Gly Leu Val Gln Ser Leu Thr Ser Ile Thr Leu
                380                     385                     390

Phe Ile Ile Pro Ala Val Ala Thr Ala Val Trp Val Leu Ile His
                395                     400                     405

Thr Ser Leu Lys Leu Lys Leu Thr Ala Ser Met Ala Phe Ser Met
                410                     415                     420
```

Leu Ala Ser Leu Asn Leu Leu Arg Leu Ser Val Phe Phe Val Pro
425 430 435

Ile Ala Val Lys Gly Leu Thr Asn Ser Lys Ser Ala Val Met Arg
440 445 450

Phe Lys Lys Phe Phe Leu Gln Glu Ser Pro Val Phe Tyr Val Gln
455 460 465

Thr Leu Gln Asp Pro Ser Lys Ala Leu Val Phe Glu Glu Ala Thr
470 475 480

Leu Ser Trp Gln Gln Thr Cys Pro Gly Ile Val Asn Gly Ala Leu
485 490 495

Glu Leu Glu Arg Asn Gly His Ala Ser Glu Gly Met Thr Arg Pro
500 505 510

Arg Asp Ala Leu Gly Pro Glu Glu Glu Gly Asn Ser Leu Gly Pro
515 520 525

Glu Leu His Lys Ile Asn Leu Val Val Ser Lys Gly Met Met Leu
530 535 540

Gly Val Cys Gly Asn Thr Gly Ser Gly Lys Ser Ser Leu Leu Ser
545 550 555

Ala Ile Leu Glu Glu Met His Leu Leu Glu Gly Ser Val Gly Val
560 565 570

Gln Gly Ser Leu Ala Tyr Val Pro Gln Gln Ala Trp Ile Val Ser
575 580 585

Gly Asn Ile Arg Glu Asn Ile Leu Met Gly Gly Ala Tyr Asp Lys
590 595 600

Ala Arg Tyr Leu Gln Val Leu His Cys Cys Ser Leu Asn Arg Asp
605 610 615

Leu Glu Leu Leu Pro Phe Gly Asp Met Thr Glu Ile Gly Glu Arg
620 625 630

Gly Pro Asn Leu Ser Gly Gly Gln Lys Gln Arg Ile Ser Leu Ala
635 640 645

Arg Ala Val Tyr Ser Asp Arg Gln Ile Tyr Leu Leu Asp Asp Pro
650 655 660

Leu Ser Ala Val Asp Ala His Val Gly Lys His Ile Phe Glu Glu
665 670 675

Cys Ile Lys Lys Thr Leu Arg Gly Lys Thr Val Val Gln Val Thr
680 685 690

His Gln Leu Gln Tyr Leu Glu Phe Cys Gly Gln Val Ile Leu Leu
695 700 705

Glu Asn Gly Lys Ile Cys Glu Asn Gly Thr His Ser Glu Leu Met

```
                710                 715                 720

Gln Lys Lys Gly Lys Tyr Ala Gln Leu Ile Gln Lys Met His Lys
                725                 730                 735

Glu Ala Thr Ser Asp Met Leu Gln Asp Thr Ala Lys Ile Ala Glu
                740                 745                 750

Lys Pro Lys Val Glu Ser Gln Ala Leu Ala Thr Ser Leu Glu Glu
                755                 760                 765

Ser Leu Asn Gly Asn Ala Val Pro Glu His Gln Leu Thr Gln Glu
                770                 775                 780

Glu Glu Met Glu Glu Gly Ser Leu Ser Trp Arg Val Tyr His His
                785                 790                 795

Tyr Ile Gln Ala Ala Gly Gly Tyr Met Val Ser Cys Ile Ile Phe
                800                 805                 810

Phe Phe Val Val Leu Ile Val Phe Leu Thr Ile Phe Ser Phe Trp
                815                 820                 825

Trp Leu Ser Tyr Trp Leu Glu Gln Gly Ser Gly Thr Asn Ser Ser
                830                 835                 840

Arg Glu Ser Asn Gly Thr Met Ala Asp Leu Gly Asn Ile Ala Asp
                845                 850                 855

Asn Pro Gln Leu Ser Phe Tyr Gln Leu Val Tyr Gly Leu Asn Ala
                860                 865                 870

Leu Leu Leu Ile Cys Val Gly Val Cys Ser Ser Gly Ile Phe Thr
                875                 880                 885

Lys Val Thr Arg Lys Ala Ser Thr Ala Leu His Asn Lys Leu Phe
                890                 895                 900

Asn Lys Val Phe Arg Cys Pro Met Ser Phe Phe Asp Thr Ile Pro
                905                 910                 915

Ile Gly Arg Leu Leu Asn Cys Phe Ala Gly Asp Leu Glu Gln Leu
                920                 925                 930

Asp Gln Leu Leu Pro Ile Phe Ser Glu Gln Phe Leu Val Leu Ser
                935                 940                 945

Leu Met Val Ile Ala Val Leu Leu Ile Val Ser Val Leu Ser Pro
                950                 955                 960

Tyr Ile Leu Leu Met Gly Ala Ile Ile Met Val Ile Cys Phe Ile
                965                 970                 975

Tyr Tyr Met Met Phe Lys Glu Ala Ile Gly Val Phe Lys Arg Leu
                980                 985                 990

Glu Asn Tyr Ser Arg Ser Pro Leu Phe Ser His Ile Leu Asn Ser
                995                1000                1005
```

```
Leu Gln Gly Leu Ser Ser Ile His Val Tyr Gly Lys Thr Glu Asp
                1010                1015                1020

Phe Ile Ser Gln Phe Lys Arg Leu Thr Asp Ala Gln Asn Asn Tyr
                1025                1030                1035

Leu Leu Leu Phe Leu Ser Ser Thr Arg Trp Met Ala Leu Arg Leu
                1040                1045                1050

Glu Ile Met Thr Asn Leu Val Thr Leu Ala Val Ala Leu Phe Val
                1055                1060                1065

Ala Phe Gly Ile Ser Ser Thr Pro Tyr Ser Phe Lys Val Met Ala
                1070                1075                1080

Val Asn Ile Val Leu Gln Leu Ala Ser Ser Phe Gln Ala Thr Ala
                1085                1090                1095

Arg Ile Gly Leu Glu Thr Glu Ala Gln Phe Thr Ala Val Glu Arg
                1100                1105                1110

Ile Leu Gln Tyr Met Lys Met Cys Val Ser Glu Ala Pro Leu His
                1115                1120                1125

Met Glu Gly Thr Ser Cys Pro Gln Gly Trp Pro Gln His Gly Glu
                1130                1135                1140

Ile Ile Phe Gln Asp Tyr His Met Lys Tyr Arg Asp Asn Thr Pro
                1145                1150                1155

Thr Val Leu His Gly Ile Asn Leu Thr Ile Arg Gly His Glu Val
                1160                1165                1170

Val Gly Ile Val Gly Arg Thr Gly Ser Gly Lys Ser Ser Leu Gly
                1175                1180                1185

Met Ala Leu Phe Arg Leu Val Glu Pro Met Ala Gly Arg Ile Leu
                1190                1195                1200

Ile Asp Gly Val Asp Ile Cys Ser Ile Gly Leu Glu Asp Leu Arg
                1205                1210                1215

Ser Lys Leu Ser Val Ile Pro Gln Asp Pro Val Leu Leu Ser Gly
                1220                1225                1230

Thr Ile Arg Phe Asn Leu Asp Pro Phe Asp Arg His Thr Asp Gln
                1235                1240                1245

Gln Ile Trp Asp Ala Leu Glu Arg Thr Phe Leu Thr Lys Ala Ile
                1250                1255                1260

Ser Lys Phe Pro Lys Lys Leu His Thr Asp Val Val Glu Asn Gly
                1265                1270                1275

Gly Asn Phe Ser Val Gly Glu Arg Gln Leu Leu Cys Ile Ala Arg
                1280                1285                1290

Ala Val Leu Arg Asn Ser Lys Ile Ile Leu Ile Asp Glu Ala Thr
```

1295 1300 1305

Ala Ser Ile Asp Met Glu Thr Asp Thr Leu Ile Gln Arg Thr Ile
1310 1315 1320

Arg Glu Ala Phe Gln Gly Cys Thr Val Leu Val Ile Ala His Arg
1325 1330 1335

Val Thr Thr Val Leu Asn Cys Asp Arg Ile Leu Val Met Gly Asn
1340 1345 1350

Gly Lys Val Val Glu Phe Asp Arg Pro Glu Val Leu Arg Lys Lys
1355 1360 1365

Pro Gly Ser Leu Phe Ala Ala Leu Met Ala Thr Ala Thr Ser Ser
1370 1375 1380

Leu Arg

<210> 129
<211> 364
<212> PRT
<213> Homo sapien

<400> 129
Met Ser Val Met Val Val Arg Lys Lys Val Thr Arg Lys Trp Glu
1 5 10 15

Lys Leu Pro Gly Arg Asn Thr Phe Cys Cys Asp Gly Arg Val Met
20 25 30

Met Ala Arg Gln Lys Gly Ile Phe Tyr Leu Thr Leu Phe Leu Ile
35 40 45

Leu Gly Thr Cys Thr Leu Phe Phe Ala Phe Glu Cys Arg Tyr Leu
50 55 60

Ala Val Gln Leu Ser Pro Ala Ile Pro Val Phe Ala Ala Met Leu
65 70 75

Phe Leu Phe Ser Met Ala Thr Leu Leu Arg Thr Ser Phe Ser Asp
80 85 90

Pro Gly Val Ile Pro Arg Ala Leu Pro Asp Glu Ala Ala Phe Ile
95 100 105

Glu Met Glu Ile Glu Ala Thr Asn Gly Ala Val Pro Gln Gly Gln
110 115 120

Arg Pro Pro Pro Arg Ile Lys Asn Phe Gln Ile Asn Asn Gln Ile
125 130 135

Val Lys Leu Lys Tyr Cys Tyr Thr Cys Lys Ile Phe Arg Pro Pro
140 145 150

Arg Ala Ser His Cys Ser Ile Cys Asp Asn Cys Val Glu Arg Phe
155 160 165

```
Asp His His Cys Pro Trp Val Gly Asn Cys Val Gly Lys Arg Asn
                170                 175                 180

Tyr Arg Tyr Phe Tyr Leu Phe Ile Leu Ser Leu Ser Leu Leu Thr
                185                 190                 195

Ile Tyr Val Phe Ala Phe Asn Ile Val Tyr Val Ala Leu Lys Ser
                200                 205                 210

Leu Lys Ile Gly Phe Leu Glu Thr Leu Lys Glu Thr Pro Gly Thr
                215                 220                 225

Val Leu Glu Val Leu Ile Cys Phe Phe Thr Leu Trp Ser Val Val
                230                 235                 240

Gly Leu Thr Gly Phe His Thr Phe Leu Val Ala Leu Asn Gln Thr
                245                 250                 255

Thr Asn Glu Asp Ile Lys Gly Ser Trp Thr Gly Lys Asn Arg Val
                260                 265                 270

Gln Asn Pro Tyr Ser His Gly Asn Ile Val Lys Asn Cys Cys Glu
                275                 280                 285

Val Leu Cys Gly Pro Leu Pro Pro Ser Val Leu Asp Arg Arg Gly
                290                 295                 300

Ile Leu Pro Leu Glu Glu Ser Gly Ser Arg Pro Pro Ser Thr Gln
                305                 310                 315

Glu Thr Ser Ser Ser Leu Leu Pro Gln Ser Pro Ala Pro Thr Glu
                320                 325                 330

His Leu Asn Ser Asn Glu Met Pro Glu Asp Ser Ser Thr Pro Glu
                335                 340                 345

Glu Met Pro Pro Pro Glu Pro Pro Glu Pro Pro Gln Glu Ala Ala
                350                 355                 360

Glu Ala Glu Lys


<210> 130
<211> 204
<212> PRT
<213> Homo sapien

<400> 130
Met Val Cys Gly Gly Phe Ala Cys Ser Lys Asn Cys Leu Cys Ala
  1               5                  10                  15

Leu Asn Leu Leu Tyr Thr Leu Val Ser Leu Leu Leu Ile Gly Ile
                 20                  25                  30

Ala Ala Trp Gly Ile Gly Phe Gly Leu Ile Ser Ser Leu Arg Val
                 35                  40                  45

Val Gly Val Val Ile Ala Val Gly Ile Phe Leu Phe Leu Ile Ala
```

```
                50                  55                  60

Leu Val Gly Leu Ile Gly Ala Val Lys His His Gln Val Leu Leu
                65                  70                  75

Phe Phe Tyr Met Ile Ile Leu Leu Leu Val Phe Ile Val Gln Phe
                80                  85                  90

Ser Val Ser Cys Ala Cys Leu Ala Leu Asn Gln Glu Gln Gln Gly
                95                  100                 105

Gln Leu Leu Glu Val Gly Trp Asn Asn Thr Ala Ser Ala Arg Asn
                110                 115                 120

Asp Ile Gln Arg Asn Leu Asn Cys Cys Gly Phe Arg Ser Val Asn
                125                 130                 135

Pro Asn Asp Thr Cys Leu Ala Ser Cys Val Lys Ser Asp His Ser
                140                 145                 150

Cys Ser Pro Cys Ala Pro Ile Ile Gly Glu Tyr Ala Gly Glu Val
                155                 160                 165

Leu Arg Phe Val Gly Gly Ile Gly Leu Phe Phe Ser Phe Thr Glu
                170                 175                 180

Ile Leu Gly Val Trp Leu Thr Tyr Arg Tyr Arg Asn Gln Lys Asp
                185                 190                 195

Pro Arg Ala Asn Pro Ser Ala Phe Leu
                200

<210> 131
<211> 359
<212> PRT
<213> Homo sapien

<400> 131
Met Lys Leu Gly Cys Val Leu Met Ala Trp Ala Leu Tyr Leu Ser
 1               5                  10                  15

Leu Gly Val Leu Trp Val Ala Gln Met Leu Leu Ala Ala Ser Phe
                20                  25                  30

Glu Thr Leu Gln Cys Glu Gly Pro Val Cys Thr Glu Glu Ser Ser
                35                  40                  45

Cys His Thr Glu Asp Asp Leu Thr Asp Ala Arg Glu Ala Gly Phe
                50                  55                  60

Gln Val Lys Ala Tyr Thr Phe Ser Glu Pro Phe His Leu Ile Val
                65                  70                  75

Ser Tyr Asp Trp Leu Ile Leu Gln Gly Pro Ala Lys Pro Val Phe
                80                  85                  90

Glu Gly Asp Leu Leu Val Leu Arg Cys Gln Ala Trp Gln Asp Trp
                95                  100                 105
```

```
Pro Leu Thr Gln Val Thr Phe Tyr Arg Asp Gly Ser Ala Leu Gly
                110                 115                 120

Pro Pro Gly Pro Asn Arg Glu Phe Ser Ile Thr Val Val Gln Lys
                125                 130                 135

Ala Asp Ser Gly His Tyr His Cys Ser Gly Ile Phe Gln Ser Pro
                140                 145                 150

Gly Pro Gly Ile Pro Glu Thr Ala Ser Val Val Ala Ile Thr Val
                155                 160                 165

Gln Glu Leu Phe Pro Ala Pro Ile Leu Arg Ala Val Pro Ser Ala
                170                 175                 180

Glu Pro Gln Ala Gly Ser Pro Met Thr Leu Ser Cys Gln Thr Lys
                185                 190                 195

Leu Pro Leu Gln Arg Ser Ala Ala Arg Leu Leu Phe Ser Phe Tyr
                200                 205                 210

Lys Asp Gly Arg Ile Val Gln Ser Arg Gly Leu Ser Ser Glu Phe
                215                 220                 225

Gln Ile Pro Thr Ala Ser Glu Asp His Ser Gly Ser Tyr Trp Cys
                230                 235                 240

Glu Ala Ala Thr Glu Asp Asn Gln Val Trp Lys Gln Ser Pro Gln
                245                 250                 255

Leu Glu Ile Arg Val Gln Gly Ala Ser Ser Ser Ala Ala Pro Pro
                260                 265                 270

Thr Leu Asn Pro Ala Pro Gln Lys Ser Ala Ala Pro Gly Thr Ala
                275                 280                 285

Pro Glu Glu Ala Pro Gly Pro Leu Pro Pro Pro Pro Thr Pro Ser
                290                 295                 300

Ser Glu Asp Pro Gly Phe Ser Ser Pro Leu Gly Met Pro Asp Pro
                305                 310                 315

His Leu Tyr His Gln Met Gly Leu Leu Leu Lys His Met Gln Asp
                320                 325                 330

Val Arg Val Leu Leu Gly His Leu Leu Met Glu Leu Arg Glu Leu
                335                 340                 345

Ser Gly His Gln Lys Pro Gly Thr Thr Lys Ala Thr Ala Glu
                350                 355

<210> 132
<211> 420
<212> PRT
<213> Homo sapien

<400> 132
Met Pro Gly Gly Cys Ser Arg Gly Pro Ala Ala Gly Asp Gly Arg
```

```
1               5                   10                  15

Leu Arg Leu Ala Arg Leu Ala Leu Val Leu Leu Gly Trp Val Ser
                20                  25                  30

Ser Ser Ser Pro Thr Ser Ser Ala Ser Ser Phe Ser Ser Ser Ala
                35                  40                  45

Pro Phe Leu Ala Ser Ala Val Ser Ala Gln Pro Pro Leu Pro Asp
                50                  55                  60

Gln Cys Pro Ala Leu Cys Glu Cys Ser Glu Ala Ala Arg Thr Val
                65                  70                  75

Lys Cys Val Asn Arg Asn Leu Thr Glu Val Pro Thr Asp Leu Pro
                80                  85                  90

Ala Tyr Val Arg Asn Leu Phe Leu Thr Gly Asn Gln Leu Ala Val
                95                  100                 105

Leu Pro Ala Gly Ala Phe Ala Arg Arg Pro Pro Leu Ala Glu Leu
                110                 115                 120

Ala Ala Leu Asn Leu Ser Gly Ser Arg Leu Asp Glu Val Arg Ala
                125                 130                 135

Gly Ala Phe Glu His Leu Pro Ser Leu Arg Gln Leu Asp Leu Ser
                140                 145                 150

His Asn Pro Leu Ala Asp Leu Ser Pro Phe Ala Phe Ser Gly Ser
                155                 160                 165

Asn Ala Ser Val Ser Ala Pro Ser Pro Leu Val Glu Leu Ile Leu
                170                 175                 180

Asn His Ile Val Pro Pro Glu Asp Glu Arg Gln Asn Arg Ser Phe
                185                 190                 195

Glu Gly Met Val Val Ala Ala Leu Leu Ala Gly Arg Ala Leu Gln
                200                 205                 210

Gly Leu Arg Arg Leu Glu Leu Ala Ser Asn His Phe Leu Tyr Leu
                215                 220                 225

Pro Arg Asp Val Leu Ala Gln Leu Pro Ser Leu Arg His Leu Asp
                230                 235                 240

Leu Ser Asn Asn Ser Leu Val Ser Leu Thr Tyr Val Ser Phe Arg
                245                 250                 255

Asn Leu Thr His Leu Glu Ser Leu His Leu Glu Asp Asn Ala Leu
                260                 265                 270

Lys Val Leu His Asn Gly Thr Leu Ala Glu Leu Gln Gly Leu Pro
                275                 280                 285

His Ile Arg Val Phe Leu Asp Asn Asn Pro Trp Val Cys Asp Cys
                290                 295                 300
```

His Met Ala Asp Met Val Thr Trp Leu Lys Glu Thr Glu Val Val
305 310 315

Gln Gly Lys Asp Arg Leu Thr Cys Ala Tyr Pro Glu Lys Met Arg
320 325 330

Asn Arg Val Leu Leu Glu Leu Asn Ser Ala Asp Leu Asp Cys Asp
335 340 345

Pro Ile Leu Pro Pro Ser Leu Gln Thr Ser Tyr Val Phe Leu Gly
350 355 360

Ile Val Leu Ala Leu Ile Gly Ala Ile Phe Leu Leu Val Leu Tyr
365 370 375

Leu Asn Arg Lys Gly Ile Lys Lys Trp Met His Asn Ile Arg Asp
380 385 390

Ala Cys Arg Asp His Met Glu Gly Tyr His Tyr Arg Tyr Glu Ile
395 400 405

Asn Ala Asp Pro Arg Leu Thr Asn Leu Ser Ser Asn Ser Asp Val
410 415 420

<210> 133
<211> 314
<212> PRT
<213> Homo sapien

<400> 133
Met Ala Pro Pro Gln Val Leu Ala Phe Gly Leu Leu Leu Ala Ala
1 5 10 15

Ala Thr Ala Thr Phe Ala Ala Ala Gln Glu Glu Cys Val Cys Glu
20 25 30

Asn Tyr Lys Leu Ala Val Asn Cys Phe Val Asn Asn Asn Arg Gln
35 40 45

Cys Gln Cys Thr Ser Val Gly Ala Gln Asn Thr Val Ile Cys Ser
50 55 60

Lys Leu Ala Ala Lys Cys Leu Val Met Lys Ala Glu Met Asn Gly
65 70 75

Ser Lys Leu Gly Arg Arg Ala Lys Pro Glu Gly Ala Leu Gln Asn
80 85 90

Asn Asp Gly Leu Tyr Asp Pro Asp Cys Asp Glu Ser Gly Leu Phe
95 100 105

Lys Ala Lys Gln Cys Asn Gly Thr Ser Thr Cys Trp Cys Val Asn
110 115 120

Thr Ala Gly Val Arg Arg Thr Asp Lys Asp Thr Glu Ile Thr Cys
125 130 135

Ser Glu Arg Val Arg Thr Tyr Trp Ile Ile Ile Glu Leu Lys His

```
                    140                 145                 150

Lys Ala Arg Glu Lys Pro Tyr Asp Ser Lys Ser Leu Arg Thr Ala
                155                 160                 165

Leu Gln Lys Glu Ile Thr Thr Arg Tyr Gln Leu Asp Pro Lys Phe
                170                 175                 180

Ile Thr Ser Ile Leu Tyr Glu Asn Asn Val Ile Thr Ile Asp Leu
                185                 190                 195

Val Gln Asn Ser Ser Gln Lys Thr Gln Asn Asp Val Asp Ile Ala
                200                 205                 210

Asp Val Ala Tyr Tyr Phe Glu Lys Asp Val Lys Gly Glu Ser Leu
                215                 220                 225

Phe His Ser Lys Lys Met Asp Leu Thr Val Asn Gly Glu Gln Leu
                230                 235                 240

Asp Leu Asp Pro Gly Gln Thr Leu Ile Tyr Tyr Val Asp Glu Lys
                245                 250                 255

Ala Pro Glu Phe Ser Met Gln Gly Leu Lys Ala Gly Val Ile Ala
                260                 265                 270

Val Ile Val Val Val Val Ile Ala Val Val Ala Gly Ile Val Val
                275                 280                 285

Leu Val Ile Ser Arg Lys Lys Arg Met Ala Lys Tyr Glu Lys Ala
                290                 295                 300

Glu Ile Lys Glu Met Gly Glu Met His Arg Glu Leu Asn Ala
                305                 310

<210> 134
<211> 1092
<212> PRT
<213> Homo sapien

<400> 134
Met Pro Cys Gly Phe Ser Pro Ser Pro Val Ala His His Leu Val
  1               5                  10                  15

Pro Gly Pro Pro Asp Thr Pro Ala Gln Gln Leu Arg Cys Gly Trp
                 20                  25                  30

Thr Val Gly Gly Trp Leu Leu Ser Leu Val Arg Gly Leu Leu Pro
                 35                  40                  45

Cys Leu Pro Pro Gly Ala Arg Thr Ala Glu Gly Pro Ile Met Val
                 50                  55                  60

Leu Ala Gly Pro Leu Ala Val Ser Leu Leu Leu Pro Ser Leu Thr
                 65                  70                  75

Leu Leu Val Ser His Leu Ser Ser Ser Gln Asp Val Ser Ser Glu
                 80                  85                  90
```

```
Pro Ser Ser Glu Gln Gln Leu Cys Ala Leu Ser Lys His Pro Thr
                95                  100                 105

Val Ala Phe Glu Asp Leu Gln Pro Trp Val Ser Asn Phe Thr Tyr
                110                 115                 120

Pro Gly Ala Arg Asp Phe Ser Gln Leu Ala Leu Asp Pro Ser Gly
                125                 130                 135

Asn Gln Leu Ile Val Gly Ala Arg Asn Tyr Leu Phe Arg Leu Ser
                140                 145                 150

Leu Ala Asn Val Ser Leu Leu Gln Ala Thr Glu Trp Ala Ser Ser
                155                 160                 165

Glu Asp Thr Arg Arg Ser Cys Gln Ser Lys Gly Lys Thr Glu Glu
                170                 175                 180

Glu Cys Gln Asn Tyr Val Arg Val Leu Ile Val Ala Gly Arg Lys
                185                 190                 195

Val Phe Met Cys Gly Thr Asn Ala Phe Ser Pro Met Cys Thr Ser
                200                 205                 210

Arg Gln Val Gly Asn Leu Ser Arg Thr Ile Glu Lys Ile Asn Gly
                215                 220                 225

Val Ala Arg Cys Pro Tyr Asp Pro Arg His Asn Ser Thr Ala Val
                230                 235                 240

Ile Ser Ser Gln Gly Glu Leu Tyr Ala Ala Thr Val Ile Asp Phe
                245                 250                 255

Ser Gly Arg Asp Pro Ala Ile Tyr Arg Ser Leu Gly Ser Gly Pro
                260                 265                 270

Pro Leu Arg Thr Ala Gln Tyr Asn Ser Lys Trp Leu Asn Glu Pro
                275                 280                 285

Asn Phe Val Ala Ala Tyr Asp Ile Gly Leu Phe Ala Tyr Phe Phe
                290                 295                 300

Leu Arg Glu Asn Ala Val Glu His Asp Cys Gly Arg Thr Val Tyr
                305                 310                 315

Ser Arg Val Ala Arg Val Cys Lys Asn Asp Val Gly Gly Arg Phe
                320                 325                 330

Leu Leu Glu Asp Thr Trp Thr Thr Phe Met Lys Ala Arg Leu Asn
                335                 340                 345

Cys Ser Arg Pro Gly Glu Val Pro Phe Tyr Tyr Asn Glu Leu Gln
                350                 355                 360

Ser Ala Phe His Leu Pro Glu Gln Asp Leu Ile Tyr Gly Val Phe
                365                 370                 375

Thr Thr Asn Val Asn Ser Ile Ala Ala Ser Ala Val Cys Ala Phe
```

380 385 390

Asn Leu Ser Ala Ile Ser Gln Ala Phe Asn Gly Pro Phe Arg Tyr
395 400 405

Gln Glu Asn Pro Arg Ala Ala Trp Leu Pro Ile Ala Asn Pro Ile
410 415 420

Pro Asn Phe Gln Cys Gly Thr Leu Pro Glu Thr Gly Pro Asn Glu
425 430 435

Asn Leu Thr Glu Arg Ser Leu Gln Asp Ala Gln Arg Leu Phe Leu
440 445 450

Met Ser Glu Ala Val Gln Pro Val Thr Pro Glu Pro Cys Val Thr
455 460 465

Gln Asp Ser Val Arg Phe Ser His Leu Val Val Asp Leu Val Gln
470 475 480

Ala Lys Asp Thr Leu Tyr His Val Leu Tyr Ile Gly Thr Glu Ser
485 490 495

Gly Thr Ile Leu Lys Ala Leu Ser Thr Ala Ser Arg Ser Leu His
500 505 510

Gly Cys Tyr Leu Glu Glu Leu His Val Leu Pro Pro Gly Arg Arg
515 520 525

Glu Pro Leu Arg Ser Leu Arg Ile Leu His Ser Ala Arg Ala Leu
530 535 540

Phe Val Gly Leu Arg Asp Gly Val Leu Arg Val Pro Leu Glu Arg
545 550 555

Cys Ala Ala Tyr Arg Ser Gln Gly Ala Cys Leu Gly Ala Arg Asp
560 565 570

Pro Tyr Cys Gly Trp Asp Gly Lys Gln Gln Arg Cys Ser Thr Leu
575 580 585

Glu Asp Ser Ser Asn Met Ser Leu Trp Thr Gln Asn Ile Thr Ala
590 595 600

Cys Pro Val Arg Asn Val Thr Arg Asp Gly Gly Phe Gly Pro Trp
605 610 615

Ser Pro Trp Gln Pro Cys Glu His Leu Asp Gly Asp Asn Ser Gly
620 625 630

Ser Cys Leu Cys Arg Ala Arg Ser Cys Asp Ser Pro Arg Pro Arg
635 640 645

Cys Gly Gly Leu Asp Cys Leu Gly Pro Ala Ile His Ile Ala Asn
650 655 660

Cys Ser Arg Asn Gly Ala Trp Thr Pro Trp Ser Ser Trp Ala Leu
665 670 675

```
Cys Ser Thr Ser Cys Gly Ile Gly Phe Gln Val Arg Gln Arg Ser
                680                 685                 690

Cys Ser Asn Pro Ala Pro Arg His Gly Gly Arg Ile Phe Val Gly
                695                 700                 705

Lys Ser Arg Glu Glu Arg Phe Cys Asn Glu Asn Thr Pro Cys Pro
                710                 715                 720

Val Pro Ile Phe Trp Ala Ser Trp Gly Ser Trp Ser Lys Cys Ser
                725                 730                 735

Ser Asn Cys Gly Gly Gly Met Gln Ser Arg Arg Arg Ala Cys Glu
                740                 745                 750

Asn Gly Asn Ser Cys Leu Gly Cys Gly Glu Phe Lys Thr Cys Asn
                755                 760                 765

Pro Glu Gly Cys Pro Glu Val Arg Arg Asn Thr Pro Trp Thr Pro
                770                 775                 780

Trp Leu Pro Val Asn Val Thr Gln Gly Gly Ala Arg Gln Glu Gln
                785                 790                 795

Arg Phe Arg Phe Thr Cys Arg Ala Pro Leu Ala Asp Pro His Gly
                800                 805                 810

Leu Gln Phe Gly Arg Arg Arg Thr Glu Thr Arg Thr Cys Pro Ala
                815                 820                 825

Asp Gly Ser Gly Ser Cys Asp Thr Asp Ala Leu Val Glu Val Leu
                830                 835                 840

Leu Arg Ser Gly Ser Thr Ser Pro His Thr Val Ser Gly Gly Trp
                845                 850                 855

Ala Ala Trp Gly Pro Trp Ser Ser Cys Ser Arg Asp Cys Glu Leu
                860                 865                 870

Gly Phe Arg Val Arg Lys Arg Thr Cys Thr Asn Pro Glu Pro Arg
                875                 880                 885

Asn Gly Gly Leu Pro Cys Val Gly Asp Ala Ala Glu Tyr Gln Asp
                890                 895                 900

Cys Asn Pro Gln Ala Cys Pro Val Arg Gly Ala Trp Ser Cys Trp
                905                 910                 915

Thr Ser Trp Ser Pro Cys Ser Ala Ser Cys Gly Gly Gly His Tyr
                920                 925                 930

Gln Arg Thr Arg Ser Cys Thr Ser Pro Ala Pro Ser Pro Gly Glu
                935                 940                 945

Asp Ile Cys Leu Gly Leu His Thr Glu Glu Ala Leu Cys Ala Thr
                950                 955                 960

Gln Ala Cys Pro Gly Trp Ser Pro Trp Ser Glu Trp Ser Lys Cys
```

965 970 975

Thr Asp Asp Gly Ala Gln Ser Arg Ser Arg His Cys Glu Glu Leu
980 985 990

Leu Pro Gly Ser Ser Ala Cys Ala Gly Asn Ser Ser Gln Ser Arg
995 1000 1005

Pro Cys Pro Tyr Ser Glu Ile Pro Val Ile Leu Pro Ala Ser Ser
1010 1015 1020

Met Glu Glu Ala Thr Asp Cys Ala Gly Lys Arg Asn Arg Thr Tyr
1025 1030 1035

Leu Met Leu Arg Ser Ser Gln Pro Ser Ser Thr Pro Leu Gln Ser
1040 1045 1050

Leu Asp Ser Phe His Ile Leu Leu Gln Thr Ala Lys Leu Cys Trp
1055 1060 1065

Gly Pro His Cys Phe Glu Met Gly Ser Ile Ser Ser Thr Trp Trp
1070 1075 1080

Pro Arg Ala Ser Pro Ala Ser Trp Ala Leu Gly Ser
1085 1090

<210> 135
<211> 260
<212> PRT
<213> Homo sapien

<400> 135
Met Ala Lys Asp Asn Ser Thr Val Arg Cys Phe Gln Gly Leu Leu
1 5 10 15

Ile Phe Gly Asn Val Ile Ile Gly Cys Cys Gly Ile Ala Leu Thr
20 25 30

Ala Glu Cys Ile Phe Phe Val Ser Asp Gln His Ser Leu Tyr Pro
35 40 45

Leu Leu Glu Ala Thr Asp Asn Asp Asp Ile Tyr Gly Ala Ala Trp
50 55 60

Ile Gly Ile Phe Val Gly Ile Cys Leu Phe Cys Leu Ser Val Leu
65 70 75

Gly Ile Val Gly Ile Met Lys Ser Ser Arg Lys Ile Leu Leu Ala
80 85 90

Tyr Phe Ile Leu Met Phe Ile Val Tyr Ala Phe Glu Val Ala Ser
95 100 105

Cys Ile Thr Ala Ala Thr Gln Gln Asp Phe Phe Thr Pro Asn Leu
110 115 120

Phe Leu Lys Gln Met Leu Glu Arg Tyr Gln Asn Asn Ser Pro Pro
125 130 135

Asn Asn Asp Asp Gln Trp Lys Asn Asn Gly Val Thr Lys Thr Trp
140 145 150

Asp Arg Leu Met Leu Gln Asp Asn Cys Cys Gly Val Asn Gly Pro
155 160 165

Ser Asp Trp Gln Lys Tyr Thr Ser Ala Phe Arg Thr Glu Asn Asn
170 175 180

Asp Ala Asp Tyr Pro Trp Pro Arg Gln Cys Cys Val Met Asn Asn
185 190 195

Leu Lys Glu Pro Leu Asn Leu Glu Ala Cys Lys Leu Gly Val Pro
200 205 210

Gly Phe Tyr His Asn Gln Gly Cys Tyr Glu Leu Ile Ser Gly Pro
215 220 225

Met Asn Arg His Ala Trp Gly Val Ala Trp Phe Gly Phe Ala Ile
230 235 240

Leu Cys Trp Thr Phe Trp Val Leu Leu Gly Thr Met Phe Tyr Trp
245 250 255

Ser Arg Ile Glu Tyr
260

<210> 136
<211> 289
<212> PRT
<213> Homo sapien

<400> 136
Met Phe Asp Lys Thr Arg Leu Pro Tyr Val Ala Leu Asp Val Leu
1 5 10 15

Cys Val Leu Leu Ala Gly Leu Pro Phe Ala Ile Phe Thr Ser Arg
20 25 30

His Ile Thr Ser Arg His Thr Pro Phe Gln Arg Gly Val Phe Cys
35 40 45

Asn Asp Glu Ser Ile Lys Tyr Pro Tyr Lys Glu Asp Thr Ile Pro
50 55 60

Tyr Ala Leu Leu Gly Gly Ile Ile Ile Pro Phe Ser Ile Ile Val
65 70 75

Ile Ile Leu Gly Glu Thr Leu Ser Val Tyr Cys Asn Leu Leu His
80 85 90

Ser Asn Ser Phe Ile Arg Asn Asn Tyr Ile Ala Thr Ile Tyr Lys
95 100 105

Ala Ile Gly Thr Phe Leu Phe Gly Ala Ala Ala Ser Gln Ser Leu
110 115 120

Thr Asp Ile Ala Lys Tyr Ser Ile Gly Arg Leu Arg Pro His Phe

```
                125                 130                 135

Leu Asp Val Cys Asp Pro Asp Trp Ser Lys Ile Asn Cys Ser Asp
                140                 145                 150

Gly Tyr Ile Glu Tyr Tyr Ile Cys Arg Gly Asn Ala Glu Arg Val
                155                 160                 165

Lys Glu Gly Arg Leu Ser Phe Tyr Ser Gly His Ser Ser Phe Ser
                170                 175                 180

Met Tyr Cys Met Leu Phe Val Ala Leu Tyr Leu Gln Ala Arg Met
                185                 190                 195

Lys Gly Asp Trp Ala Arg Leu Leu Arg Pro Thr Leu Gln Phe Gly
                200                 205                 210

Leu Val Ala Val Ser Ile Tyr Val Gly Leu Ser Arg Val Ser Asp
                215                 220                 225

Tyr Lys His His Trp Ser Asp Val Leu Thr Gly Leu Ile Gln Gly
                230                 235                 240

Ala Leu Val Ala Ile Leu Val Ala Val Tyr Val Ser Asp Phe Phe
                245                 250                 255

Lys Glu Arg Thr Ser Phe Lys Glu Arg Lys Glu Glu Asp Ser His
                260                 265                 270

Thr Thr Leu His Glu Thr Pro Thr Thr Gly Asn His Tyr Pro Ser
                275                 280                 285

Asn His Gln Pro


<210> 137
<211> 734
<212> PRT
<213> Homo sapien

<400> 137
Met Leu Leu Trp Leu Leu Leu Leu Ile Leu Thr Pro Gly Arg Glu
 1               5                  10                  15

Gln Ser Gly Val Ala Pro Lys Ala Val Leu Leu Leu Asn Pro Pro
                20                  25                  30

Trp Ser Thr Ala Phe Lys Gly Glu Lys Val Ala Leu Ile Cys Ser
                35                  40                  45

Ser Ile Ser His Ser Leu Ala Gln Gly Asp Thr Tyr Trp Tyr His
                50                  55                  60

Asp Glu Lys Leu Leu Lys Ile Lys His Asp Lys Ile Gln Ile Thr
                65                  70                  75

Glu Pro Gly Asn Tyr Gln Cys Lys Thr Arg Gly Ser Ser Leu Ser
                80                  85                  90
```

Asp Ala Val His Val Glu Phe Ser Pro Asp Trp Leu Ile Leu Gln
95 100 105

Ala Leu His Pro Val Phe Glu Gly Asp Asn Val Ile Leu Arg Cys
110 115 120

Gln Gly Lys Asp Asn Lys Asn Thr His Gln Lys Val Tyr Tyr Lys
125 130 135

Asp Gly Lys Gln Leu Pro Asn Ser Tyr Asn Leu Glu Lys Ile Thr
140 145 150

Val Asn Ser Val Ser Arg Asp Asn Ser Lys Tyr His Cys Thr Ala
155 160 165

Tyr Arg Lys Phe Tyr Ile Leu Asp Ile Glu Val Thr Ser Lys Pro
170 175 180

Leu Asn Ile Gln Val Gln Glu Leu Phe Leu His Pro Val Leu Arg
185 190 195

Ala Ser Ser Ser Thr Pro Ile Glu Gly Ser Pro Met Thr Leu Thr
200 205 210

Cys Glu Thr Gln Leu Ser Pro Gln Arg Pro Asp Val Gln Leu Gln
215 220 225

Phe Ser Leu Phe Arg Asp Ser Gln Thr Leu Gly Leu Gly Trp Ser
230 235 240

Arg Ser Pro Arg Leu Gln Ile Pro Ala Met Trp Thr Glu Asp Ser
245 250 255

Gly Ser Tyr Trp Cys Glu Val Glu Thr Val Thr His Ser Ile Lys
260 265 270

Lys Arg Ser Leu Arg Ser Gln Ile Arg Val Gln Arg Val Pro Val
275 280 285

Ser Asn Val Asn Leu Glu Ile Arg Pro Thr Gly Gly Gln Leu Ile
290 295 300

Glu Gly Glu Asn Met Val Leu Ile Cys Ser Val Ala Gln Gly Ser
305 310 315

Gly Thr Val Thr Phe Ser Trp His Lys Glu Gly Arg Val Arg Ser
320 325 330

Leu Gly Arg Lys Thr Gln Arg Ser Leu Leu Ala Glu Leu His Val
335 340 345

Leu Thr Val Lys Glu Ser Asp Ala Gly Arg Tyr Tyr Cys Ala Ala
350 355 360

Asp Asn Val His Ser Pro Ile Leu Ser Thr Trp Ile Arg Val Thr
365 370 375

Val Arg Ile Pro Val Ser His Pro Val Leu Thr Phe Arg Ala Pro

380 385 390

Arg Ala His Thr Val Val Gly Asp Leu Leu Glu Leu His Cys Glu
395 400 405

Ser Leu Arg Gly Ser Pro Pro Ile Leu Tyr Arg Phe Tyr His Glu
410 415 420

Asp Val Thr Leu Gly Asn Ser Ser Ala Pro Ser Gly Gly Gly Ala
425 430 435

Ser Phe Asn Leu Ser Leu Thr Ala Glu His Ser Gly Asn Tyr Ser
440 445 450

Cys Asp Ala Asp Asn Gly Leu Gly Ala Gln His Ser His Gly Val
455 460 465

Ser Leu Arg Val Thr Val Pro Val Ser Arg Pro Val Leu Thr Leu
470 475 480

Arg Ala Pro Gly Ala Gln Ala Val Val Gly Asp Leu Leu Glu Leu
485 490 495

His Cys Glu Ser Leu Arg Gly Ser Phe Pro Ile Leu Tyr Trp Phe
500 505 510

Tyr His Glu Asp Asp Thr Leu Gly Asn Ile Ser Ala His Ser Gly
515 520 525

Gly Gly Ala Ser Phe Asn Leu Ser Leu Thr Thr Glu His Ser Gly
530 535 540

Asn Tyr Ser Cys Glu Ala Asp Asn Gly Leu Gly Ala Gln His Ser
545 550 555

Lys Val Val Thr Leu Asn Val Thr Gly Thr Ser Arg Asn Arg Thr
560 565 570

Gly Leu Thr Ala Ala Gly Ile Thr Gly Leu Val Leu Ser Ile Leu
575 580 585

Val Leu Ala Ala Ala Ala Ala Leu Leu His Tyr Ala Arg Ala Arg
590 595 600

Arg Lys Pro Gly Gly Leu Ser Ala Thr Gly Thr Ser Ser His Ser
605 610 615

Pro Ser Glu Cys Gln Glu Pro Ser Ser Ser Arg Pro Ser Arg Ile
620 625 630

Asp Pro Gln Glu Pro Thr His Ser Lys Pro Leu Ala Pro Met Glu
635 640 645

Leu Glu Pro Met Tyr Ser Asn Val Asn Pro Gly Asp Ser Asn Pro
650 655 660

Ile Tyr Ser Gln Ile Trp Ser Ile Gln His Thr Lys Glu Asn Ser
665 670 675

Ala Asn Cys Pro Met Met His Gln Glu His Glu Glu Leu Thr Val
680 685 690

Leu Tyr Ser Glu Leu Lys Lys Thr His Pro Asp Asp Ser Ala Gly
695 700 705

Glu Ala Ser Ser Arg Gly Arg Ala His Glu Glu Asp Asp Glu Glu
710 715 720

Asn Tyr Glu Asn Val Pro Arg Val Leu Leu Ala Ser Asp His
725 730

<210> 138
<211> 251
<212> PRT
<213> Homo sapien

<400> 138
Met Glu Gly Gly Ala Ala Ala Ala Thr Pro Thr Ala Leu Pro Tyr
1 5 10 15

Tyr Val Ala Phe Ser Gln Leu Leu Gly Leu Thr Leu Val Ala Met
20 25 30

Thr Gly Ala Trp Leu Gly Leu Tyr Arg Gly Gly Ile Ala Trp Glu
35 40 45

Ser Asp Leu Gln Phe Asn Ala His Pro Leu Cys Met Val Ile Gly
50 55 60

Leu Ile Phe Leu Gln Gly Asn Ala Leu Leu Val Tyr Arg Val Phe
65 70 75

Arg Asn Glu Ala Lys Arg Thr Thr Lys Val Leu His Gly Leu Leu
80 85 90

His Ile Phe Ala Leu Val Ile Ala Leu Val Gly Leu Val Ala Val
95 100 105

Phe Asp Tyr His Arg Lys Lys Gly Tyr Ala Asp Leu Tyr Ser Leu
110 115 120

His Ser Trp Cys Gly Ile Leu Val Phe Val Leu Tyr Phe Val Gln
125 130 135

Trp Leu Val Gly Phe Ser Phe Phe Leu Phe Pro Gly Ala Ser Phe
140 145 150

Ser Leu Arg Ser Arg Tyr Arg Pro Gln His Ile Phe Phe Gly Ala
155 160 165

Thr Ile Phe Leu Leu Pro Val Gly Thr Ala Leu Leu Gly Leu Lys
170 175 180

Glu Ala Leu Leu Phe Asn Leu Gly Gly Lys Tyr Ser Ala Phe Glu
185 190 195

Pro Glu Gly Val Leu Ala Asn Val Leu Gly Leu Leu Leu Ala Cys

200 205 210

Phe Gly Gly Ala Val Leu Tyr Ile Leu Thr Arg Ala Asp Trp Lys
215 220 225

Arg Pro Ser Gln Ala Glu Glu Gln Ala Leu Ser Met Asp Phe Lys
230 235 240

Thr Leu Arg Gln Gly Asp Ser Pro Gly Ser Gln
245 250

<210> 139
<211> 391
<212> PRT
<213> Homo sapien

<400> 139
Met Arg Gln Leu Cys Arg Gly Arg Val Leu Gly Ile Ser Val Ala
1 5 10 15

Ile Ala His Gly Val Phe Ser Gly Ser Leu Asn Ile Leu Leu Lys
20 25 30

Phe Leu Ile Ser Arg Tyr Gln Phe Ser Phe Leu Thr Leu Val Gln
35 40 45

Cys Leu Thr Ser Ser Thr Ala Ala Leu Ser Leu Glu Leu Leu Arg
50 55 60

Arg Leu Gly Leu Ile Ala Val Pro Pro Phe Gly Leu Ser Leu Ala
65 70 75

Arg Ser Phe Ala Gly Val Ala Val Leu Ser Thr Leu Gln Ser Ser
80 85 90

Leu Thr Leu Trp Ser Leu Arg Gly Leu Ser Leu Pro Met Tyr Val
95 100 105

Val Phe Lys Arg Cys Leu Pro Leu Val Thr Met Leu Ile Gly Val
110 115 120

Leu Val Leu Lys Asn Gly Ala Pro Ser Pro Gly Val Leu Ala Ala
125 130 135

Val Leu Ile Thr Thr Cys Gly Ala Ala Leu Ala Gly Ala Gly Asp
140 145 150

Leu Thr Gly Asp Pro Ile Gly Tyr Val Thr Gly Val Leu Ala Val
155 160 165

Leu Val His Ala Ala Tyr Leu Val Leu Ile Gln Lys Ala Ser Ala
170 175 180

Asp Thr Glu His Gly Pro Leu Thr Ala Gln Tyr Val Ile Ala Val
185 190 195

Ser Ala Thr Pro Leu Leu Val Ile Cys Ser Phe Ala Ser Thr Asp
200 205 210

```
Ser Ile His Ala Trp Thr Phe Pro Gly Trp Lys Asp Pro Ala Met
                215                 220                 225

Val Cys Ile Phe Val Ala Cys Ile Leu Ile Gly Cys Ala Met Asn
                230                 235                 240

Phe Thr Thr Leu His Cys Thr Tyr Ile Asn Ser Ala Val Thr Thr
                245                 250                 255

Ser Leu Phe Ile Ala Gly Val Val Val Asn Thr Leu Gly Ser Ile
                260                 265                 270

Ile Tyr Cys Val Ala Lys Phe Met Glu Thr Arg Lys Gln Ser Asn
                275                 280                 285

Tyr Glu Asp Leu Glu Ala Gln Pro Arg Gly Glu Glu Ala Gln Leu
                290                 295                 300

Ser Gly Asp Gln Leu Pro Phe Val Met Glu Glu Leu Pro Gly Glu
                305                 310                 315

Gly Gly Asn Gly Arg Ser Glu Gly Gly Glu Ala Ala Gly Gly Pro
                320                 325                 330

Ala Gln Glu Ser Arg Gln Glu Val Arg Gly Ser Pro Arg Gly Val
                335                 340                 345

Pro Leu Val Ala Gly Ser Ser Glu Glu Gly Ser Arg Arg Ser Leu
                350                 355                 360

Lys Asp Ala Tyr Leu Glu Val Trp Arg Leu Val Arg Gly Thr Arg
                365                 370                 375

Tyr Met Lys Lys Asp Tyr Leu Ile Glu Asn Glu Glu Leu Pro Ser
                380                 385                 390

Pro


<210> 140
<211> 229
<212> PRT
<213> Homo sapien

<400> 140
Met Ala Arg Leu Ala Leu Ser Pro Val Pro Ser His Trp Met Val
 1               5                  10                  15

Ala Leu Leu Leu Leu Leu Ser Ala Glu Pro Val Pro Ala Ala Arg
                20                  25                  30

Ser Glu Asp Arg Tyr Arg Asn Pro Lys Gly Ser Ala Cys Ser Arg
                35                  40                  45

Ile Trp Gln Ser Pro Arg Phe Ile Ala Arg Lys Arg Gly Phe Thr
                50                  55                  60

Val Lys Met His Cys Tyr Met Asn Ser Ala Ser Gly Asn Val Ser
```

65 70 75

Trp Leu Trp Lys Gln Glu Met Asp Glu Asn Pro Gln Gln Leu Lys
80 85 90

Leu Glu Lys Gly Arg Met Glu Glu Ser Gln Asn Glu Ser Leu Ala
95 100 105

Thr Leu Thr Ile Gln Gly Ile Arg Phe Glu Asp Asn Gly Ile Tyr
110 115 120

Phe Cys Gln Gln Lys Cys Asn Asn Thr Ser Glu Val Tyr Gln Gly
125 130 135

Cys Gly Thr Glu Leu Arg Val Met Gly Phe Ser Thr Leu Ala Gln
140 145 150

Leu Lys Gln Arg Asn Thr Leu Lys Asp Gly Ile Ile Met Ile Gln
155 160 165

Thr Leu Leu Ile Ile Leu Phe Ile Ile Val Pro Ile Phe Leu Leu
170 175 180

Leu Asp Lys Asp Asp Ser Lys Ala Gly Met Glu Glu Asp His Thr
185 190 195

Tyr Glu Gly Leu Asp Ile Asp Gln Thr Ala Thr Tyr Glu Asp Ile
200 205 210

Val Thr Leu Arg Thr Gly Glu Val Lys Trp Ser Val Gly Glu His
215 220 225

Pro Gly Gln Glu

<210> 141
<211> 699
<212> PRT
<213> Homo sapien

<400> 141
Met Gly Leu Pro Glu Pro Gly Pro Leu Arg Leu Leu Ala Leu Leu
1 5 10 15

Leu Leu Leu Leu Leu Leu Leu Leu Leu Arg Leu Gln His Leu Ala
20 25 30

Ala Ala Ala Ala Asp Pro Leu Leu Gly Gly Gln Gly Pro Ala Lys
35 40 45

Glu Cys Glu Lys Asp Gln Phe Gln Cys Arg Asn Glu Arg Cys Ile
50 55 60

Pro Ser Val Trp Arg Cys Asp Glu Asp Asp Asp Cys Leu Asp His
65 70 75

Ser Asp Glu Asp Asp Cys Pro Lys Lys Thr Cys Ala Asp Ser Asp
80 85 90

```
Phe Thr Cys Asp Asn Gly His Cys Ile His Glu Arg Trp Lys Cys
                95                  100                 105

Asp Gly Glu Glu Glu Cys Pro Asp Gly Ser Asp Glu Ser Glu Ala
                110                 115                 120

Thr Cys Thr Lys Gln Val Cys Pro Ala Glu Lys Leu Ser Cys Gly
                125                 130                 135

Pro Thr Ser His Lys Cys Val Pro Ala Ser Trp Arg Cys Asp Gly
                140                 145                 150

Glu Lys Asp Cys Glu Gly Gly Ala Asp Glu Ala Gly Cys Ala Thr
                155                 160                 165

Ser Leu Gly Thr Cys Arg Gly Asp Glu Phe Gln Cys Gly Asp Gly
                170                 175                 180

Thr Cys Val Leu Ala Ile Lys His Cys Asn Gln Glu Gln Asp Cys
                185                 190                 195

Pro Asp Gly Ser Asp Glu Ala Gly Cys Leu Gln Gly Leu Asn Glu
                200                 205                 210

Cys Leu His Asn Asn Gly Gly Cys Ser His Ile Cys Thr Asp Leu
                215                 220                 225

Lys Ile Gly Phe Glu Cys Thr Cys Pro Ala Gly Phe Gln Leu Leu
                230                 235                 240

Asp Gln Lys Thr Cys Gly Asp Ile Asp Glu Cys Lys Asp Pro Asp
                245                 250                 255

Ala Cys Ser Gln Ile Cys Val Asn Tyr Lys Gly Tyr Phe Lys Cys
                260                 265                 270

Glu Cys Tyr Pro Gly Cys Glu Met Asp Leu Leu Thr Lys Asn Cys
                275                 280                 285

Lys Ala Ala Ala Gly Lys Ser Pro Ser Leu Ile Phe Thr Asn Arg
                290                 295                 300

Thr Ser Ala Glu Asp Arg Pro Val Lys Arg Asn Tyr Ser Arg Leu
                305                 310                 315

Ile Pro Met Leu Lys Asn Val Val Ala Leu Asp Val Glu Val Ala
                320                 325                 330

Thr Asn Arg Ile Tyr Trp Cys Asp Leu Ser Tyr Arg Lys Ile Tyr
                335                 340                 345

Ser Ala Tyr Met Asp Lys Ala Ser Asp Pro Lys Glu Arg Glu Val
                350                 355                 360

Leu Ile Asp Glu Gln Leu His Ser Pro Glu Gly Leu Ala Val Asp
                365                 370                 375

Trp Val His Lys His Ile Tyr Trp Thr Asp Ser Gly Asn Lys Thr
```

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                380                 385                 390

Ile Ser Val Ala Thr Val Asp Gly Gly Arg Arg Arg Thr Leu Phe
                395                 400                 405

Ser Arg Asn Leu Ser Glu Pro Arg Ala Ile Ala Val Asp Pro Leu
                410                 415                 420

Arg Gly Phe Met Tyr Trp Ser Asp Trp Gly Asp Gln Ala Lys Ile
                425                 430                 435

Glu Lys Ser Gly Leu Asn Gly Val Asp Arg Gln Thr Leu Val Ser
                440                 445                 450

Asp Asn Ile Glu Trp Pro Asn Gly Ile Thr Leu Asp Leu Leu Ser
                455                 460                 465

Gln Arg Leu Tyr Trp Val Asp Ser Lys Leu His Gln Leu Ser Ser
                470                 475                 480

Ile Asp Phe Ser Gly Gly Asn Arg Lys Thr Leu Ile Ser Ser Thr
                485                 490                 495

Asp Phe Leu Ser His Pro Phe Gly Ile Ala Val Phe Glu Asp Lys
                500                 505                 510

Val Phe Trp Thr Asp Leu Glu Asn Glu Ala Ile Phe Ser Ala Asn
                515                 520                 525

Arg Leu Asn Gly Leu Glu Ile Ser Ile Leu Ala Glu Asn Leu Asn
                530                 535                 540

Asn Pro His Asp Ile Val Ile Phe His Glu Leu Lys Gln Pro Arg
                545                 550                 555

Ala Pro Asp Ala Cys Glu Leu Ser Val Gln Pro Asn Gly Gly Cys
                560                 565                 570

Glu Tyr Leu Cys Leu Pro Ala Pro Gln Ile Ser Ser His Ser Pro
                575                 580                 585

Lys Tyr Thr Cys Ala Cys Pro Asp Thr Met Trp Leu Gly Pro Asp
                590                 595                 600

Met Lys Arg Cys Tyr Arg Asp Ala Asn Glu Asp Ser Lys Met Gly
                605                 610                 615

Ser Thr Val Thr Ala Ala Val Ile Gly Ile Ile Val Pro Ile Val
                620                 625                 630

Val Ile Ala Leu Leu Cys Met Ser Gly Tyr Leu Ile Trp Arg Asn
                635                 640                 645

Trp Lys Arg Lys Asn Thr Lys Ser Met Asn Phe Asp Asn Pro Val
                650                 655                 660

Tyr Arg Lys Thr Thr Glu Glu Glu Asp Glu Asp Glu Leu His Ile
                665                 670                 675
```

Gly Arg Thr Ala Gln Ile Gly His Val Tyr Pro Ala Arg Val Ala
680 685 690

Leu Ser Leu Glu Asp Asp Gly Leu Pro
695

<210> 142
<211> 287
<212> PRT
<213> Homo sapien

<400> 142
Met Pro Pro Leu Trp Ala Leu Leu Ala Leu Gly Cys Leu Arg Phe
1 5 10 15

Gly Ser Ala Val Asn Leu Gln Pro Gln Leu Ala Ser Val Thr Phe
20 25 30

Ala Thr Asn Asn Pro Thr Leu Thr Thr Val Ala Leu Glu Lys Pro
35 40 45

Leu Cys Met Phe Asp Ser Lys Glu Ala Leu Thr Gly Thr His Glu
50 55 60

Val Tyr Leu Tyr Val Leu Val Asp Ser Ala Ile Ser Arg Asn Ala
65 70 75

Ser Val Gln Asp Ser Thr Asn Thr Pro Leu Gly Ser Thr Phe Leu
80 85 90

Gln Thr Glu Gly Gly Arg Thr Gly Pro Tyr Lys Ala Val Ala Phe
95 100 105

Asp Leu Ile Pro Cys Ser Asp Leu Pro Ser Leu Asp Ala Ile Gly
110 115 120

Asp Val Ser Lys Ala Ser Gln Ile Leu Asn Ala Tyr Leu Val Arg
125 130 135

Val Gly Ala Asn Gly Thr Cys Leu Trp Asp Pro Asn Phe Gln Gly
140 145 150

Leu Cys Asn Ala Pro Leu Ser Ala Ala Thr Glu Tyr Arg Phe Lys
155 160 165

Tyr Val Leu Val Asn Met Ser Thr Gly Leu Val Glu Asp Gln Thr
170 175 180

Leu Trp Ser Asp Pro Ile Arg Thr Asn Gln Leu Thr Pro Tyr Ser
185 190 195

Thr Ile Asp Thr Trp Pro Gly Arg Arg Ser Gly Gly Met Ile Val
200 205 210

Ile Thr Ser Ile Leu Gly Ser Leu Pro Phe Phe Leu Leu Val Gly
215 220 225

Phe Ala Gly Ala Ile Ala Leu Ser Leu Val Asp Met Gly Ser Ser

```
                 230                     235                     240

Asp Gly Glu Thr Thr His Asp Ser Gln Ile Thr Gln Glu Ala Val
                245                     250                     255

Pro Lys Ser Leu Gly Ala Ser Glu Ser Ser Tyr Thr Ser Val Asn
                260                     265                     270

Arg Gly Pro Pro Leu Asp Arg Ala Glu Val Tyr Ser Ser Lys Leu
                275                     280                     285

Gln Asp


<210> 143
<211> 196
<212> PRT
<213> Homo sapien

<400> 143
Met Arg Lys Leu Ile Ala Gly Leu Ile Phe Leu Lys Phe Trp Thr
  1               5                  10                  15

Tyr Thr Val Arg Ala Ser Thr Asp Leu Pro Gln Thr Glu Asn Cys
                 20                  25                  30

Phe Gln Tyr Ile His Gln Val Thr Glu Ile Ser Ser Thr Leu Pro
                 35                  40                  45

Val Ala Leu Leu Arg Asp Glu Val Pro Gly Trp Phe Leu Lys Val
                 50                  55                  60

Pro Glu Pro Gln Leu Ile Ser Lys Glu Leu Ile Met Leu Thr Glu
                 65                  70                  75

Val Met Glu Val Trp His Gly Leu Val Ile Ala Val Val Ser Leu
                 80                  85                  90

Phe Leu Gln Ala Cys Phe Leu Thr Ala Ile Asn Tyr Leu Leu Ser
                 95                 100                 105

Arg His Met Ala His Lys Ser Glu Gln Ile Leu Lys Ala Ala Ser
                110                 115                 120

Leu Gln Val Pro Arg Pro Ser Pro Gly His His His Pro Pro Ala
                125                 130                 135

Val Lys Glu Met Lys Glu Thr Gln Thr Glu Arg Asp Ile Pro Met
                140                 145                 150

Ser Asp Ser Leu Tyr Arg His Asp Ser Asp Thr Pro Ser Asp Ser
                155                 160                 165

Leu Asp Ser Ser Cys Ser Ser Pro Pro Ala Cys Gln Ala Thr Glu
                170                 175                 180

Asp Val Asp Tyr Thr Gln Val Val Phe Ser Asp Pro Gly Glu Leu
                185                 190                 195
```

```
Lys


<210> 144
<211> 580
<212> PRT
<213> Homo sapien

<400> 144
Met Ala Gly Thr Val Arg Thr Ala Cys Leu Val Val Ala Met Leu
1               5                   10                  15

Leu Ser Leu Asp Phe Pro Gly Gln Ala Gln Pro Pro Pro Pro Pro
                20                  25                  30

Pro Asp Ala Thr Cys His Gln Val Arg Ser Phe Phe Gln Arg Leu
                35                  40                  45

Gln Pro Gly Leu Lys Trp Val Pro Glu Thr Pro Val Pro Gly Ser
                50                  55                  60

Asp Leu Gln Val Cys Leu Pro Lys Gly Pro Thr Cys Cys Ser Arg
                65                  70                  75

Lys Met Glu Glu Lys Tyr Gln Leu Thr Ala Arg Leu Asn Met Glu
                80                  85                  90

Gln Leu Leu Gln Ser Ala Ser Met Glu Leu Lys Phe Leu Ile Ile
                95                  100                 105

Gln Asn Ala Ala Val Phe Gln Glu Ala Phe Glu Ile Val Val Arg
                110                 115                 120

His Ala Lys Asn Tyr Thr Asn Ala Met Phe Lys Asn Asn Tyr Pro
                125                 130                 135

Ser Leu Thr Pro Gln Ala Phe Glu Phe Val Gly Glu Phe Phe Thr
                140                 145                 150

Asp Val Ser Leu Tyr Ile Leu Gly Ser Asp Ile Asn Val Asp Asp
                155                 160                 165

Met Val Asn Glu Leu Phe Asp Ser Leu Phe Pro Val Ile Tyr Thr
                170                 175                 180

Gln Leu Met Asn Pro Gly Leu Pro Asp Ser Ala Leu Asp Ile Asn
                185                 190                 195

Glu Cys Leu Arg Gly Ala Arg Arg Asp Leu Lys Val Phe Gly Asn
                200                 205                 210

Phe Pro Lys Leu Ile Met Thr Gln Val Ser Lys Ser Leu Gln Val
                215                 220                 225

Thr Arg Ile Phe Leu Gln Ala Leu Asn Leu Gly Ile Glu Val Ile
                230                 235                 240

Asn Thr Thr Asp His Leu Lys Phe Ser Lys Asp Cys Gly Arg Met
```

```
                245                 250                 255

Leu Thr Arg Met Trp Tyr Cys Ser Tyr Cys Gln Gly Leu Met Met
                260                 265                 270

Val Lys Pro Cys Gly Gly Tyr Cys Asn Val Val Met Gln Gly Cys
                275                 280                 285

Met Ala Gly Val Val Glu Ile Asp Lys Tyr Trp Arg Glu Tyr Ile
                290                 295                 300

Leu Ser Leu Glu Glu Leu Val Asn Gly Met Tyr Arg Ile Tyr Asp
                305                 310                 315

Met Glu Asn Val Leu Leu Gly Leu Phe Ser Thr Ile His Asp Ser
                320                 325                 330

Ile Gln Tyr Val Gln Lys Asn Ala Gly Lys Leu Thr Thr Thr Ile
                335                 340                 345

Gly Lys Leu Cys Ala His Ser Gln Gln Arg Gln Tyr Arg Ser Ala
                350                 355                 360

Tyr Tyr Pro Glu Asp Leu Phe Ile Asp Lys Lys Val Leu Lys Val
                365                 370                 375

Ala His Val Glu His Glu Glu Thr Leu Ser Ser Arg Arg Arg Glu
                380                 385                 390

Leu Ile Gln Lys Leu Lys Ser Phe Ile Ser Phe Tyr Ser Ala Leu
                395                 400                 405

Pro Gly Tyr Ile Cys Ser His Ser Pro Val Ala Glu Asn Asp Thr
                410                 415                 420

Leu Cys Trp Asn Gly Gln Glu Leu Met Glu Arg Tyr Ser Gln Lys
                425                 430                 435

Ala Ala Arg Asn Gly Met Lys Asn Gln Phe Asn Leu His Glu Leu
                440                 445                 450

Lys Met Lys Gly Pro Glu Pro Val Val Ser Gln Ile Ile Asp Lys
                455                 460                 465

Leu Lys His Ile Asn Gln Leu Leu Arg Thr Met Ser Met Pro Lys
                470                 475                 480

Gly Arg Val Leu Asp Lys Asn Leu Asp Glu Glu Gly Phe Glu Ser
                485                 490                 495

Gly Asp Cys Gly Asp Asp Glu Asp Glu Cys Ile Gly Gly Ser Gly
                500                 505                 510

Asp Gly Met Ile Lys Val Lys Asn Gln Leu Arg Phe Leu Ala Glu
                515                 520                 525

Leu Ala Tyr Asp Leu Asp Val Asp Asp Ala Pro Gly Asn Ser Gln
                530                 535                 540
```

Gln Ala Thr Pro Lys Asp Asn Glu Ile Ser Thr Phe His Asn Leu
545 550 555

Gly Asn Val His Ser Pro Leu Lys Leu Leu Thr Ser Met Ala Ile
560 565 570

Ser Val Val Cys Phe Phe Phe Leu Val His
575 580

<210> 145
<211> 829
<212> PRT
<213> Homo sapien

<400> 145
Met Gly Leu Pro Arg Gly Pro Leu Ala Ser Leu Leu Leu Leu Gln
1 5 10 15

Val Cys Trp Leu Gln Cys Ala Ala Ser Glu Pro Cys Arg Ala Val
20 25 30

Phe Arg Glu Ala Glu Val Thr Leu Glu Ala Gly Gly Ala Glu Gln
35 40 45

Glu Pro Gly Gln Ala Leu Gly Lys Val Phe Met Gly Cys Pro Gly
50 55 60

Gln Glu Pro Ala Leu Phe Ser Thr Asp Asn Asp Asp Phe Thr Val
65 70 75

Arg Asn Gly Glu Thr Val Gln Glu Arg Arg Ser Leu Lys Glu Arg
80 85 90

Asn Pro Leu Lys Ile Phe Pro Ser Lys Arg Ile Leu Arg Arg His
95 100 105

Lys Arg Asp Trp Val Val Ala Pro Ile Ser Val Pro Glu Asn Gly
110 115 120

Lys Gly Pro Phe Pro Gln Arg Leu Asn Gln Leu Lys Ser Asn Lys
125 130 135

Asp Arg Asp Thr Lys Ile Phe Tyr Ser Ile Thr Gly Pro Gly Ala
140 145 150

Asp Ser Pro Pro Glu Gly Val Phe Ala Val Glu Lys Glu Thr Gly
155 160 165

Trp Leu Leu Leu Asn Lys Pro Leu Asp Arg Glu Glu Ile Ala Lys
170 175 180

Tyr Glu Leu Phe Gly His Ala Val Ser Glu Asn Gly Ala Ser Val
185 190 195

Glu Asp Pro Met Asn Ile Ser Ile Ile Val Thr Asp Gln Asn Asp
200 205 210

His Lys Pro Lys Phe Thr Gln Asp Thr Phe Arg Gly Ser Val Leu

```
                215                 220                 225

Glu Gly Val Leu Pro Gly Thr Ser Val Met Gln Val Thr Ala Thr
                230                 235                 240

Asp Glu Asp Asp Ala Ile Tyr Thr Tyr Asn Gly Val Val Ala Tyr
                245                 250                 255

Ser Ile His Ser Gln Glu Pro Lys Asp Pro His Asp Leu Met Phe
                260                 265                 270

Thr Ile His Arg Ser Thr Gly Thr Ile Ser Val Ile Ser Ser Gly
                275                 280                 285

Leu Asp Arg Glu Lys Val Pro Glu Tyr Thr Leu Thr Ile Gln Ala
                290                 295                 300

Thr Asp Met Asp Gly Asp Gly Ser Thr Thr Thr Ala Val Ala Val
                305                 310                 315

Val Glu Ile Leu Asp Ala Asn Asp Asn Ala Pro Met Phe Asp Pro
                320                 325                 330

Gln Lys Tyr Glu Ala His Val Pro Glu Asn Ala Val Gly His Glu
                335                 340                 345

Val Gln Arg Leu Thr Val Thr Asp Leu Asp Ala Pro Asn Ser Pro
                350                 355                 360

Ala Trp Arg Ala Thr Tyr Leu Ile Met Gly Gly Asp Asp Gly Asp
                365                 370                 375

His Phe Thr Ile Thr Thr His Pro Glu Ser Asn Gln Gly Ile Leu
                380                 385                 390

Thr Thr Arg Lys Gly Leu Asp Phe Glu Ala Lys Asn Gln His Thr
                395                 400                 405

Leu Tyr Val Glu Val Thr Asn Glu Ala Pro Phe Val Leu Lys Leu
                410                 415                 420

Pro Thr Ser Thr Ala Thr Ile Val Val His Val Glu Asp Val Asn
                425                 430                 435

Glu Ala Pro Val Phe Val Pro Pro Ser Lys Val Val Glu Val Gln
                440                 445                 450

Glu Gly Ile Pro Thr Gly Glu Pro Val Cys Val Tyr Thr Ala Glu
                455                 460                 465

Asp Pro Asp Lys Glu Asn Gln Lys Ile Ser Tyr Arg Ile Leu Arg
                470                 475                 480

Asp Pro Ala Gly Trp Leu Ala Met Asp Pro Asp Ser Gly Gln Val
                485                 490                 495

Thr Ala Val Gly Thr Leu Asp Arg Glu Asp Glu Gln Phe Val Arg
                500                 505                 510
```

```
Asn Asn Ile Tyr Glu Val Met Val Leu Ala Met Asp Asn Gly Ser
                515                 520                 525

Pro Pro Thr Thr Gly Thr Gly Thr Leu Leu Leu Thr Leu Ile Asp
                530                 535                 540

Val Asn Asp His Gly Pro Val Pro Glu Pro Arg Gln Ile Thr Ile
                545                 550                 555

Cys Asn Gln Ser Pro Val Arg His Val Leu Asn Ile Thr Asp Lys
                560                 565                 570

Asp Leu Ser Pro His Thr Ser Pro Phe Gln Ala Gln Leu Thr Asp
                575                 580                 585

Asp Ser Asp Ile Tyr Trp Thr Ala Glu Val Asn Glu Glu Gly Asp
                590                 595                 600

Thr Val Val Leu Ser Leu Lys Lys Phe Leu Lys Gln Asp Thr Tyr
                605                 610                 615

Asp Val His Leu Ser Leu Ser Asp His Gly Asn Lys Glu Gln Leu
                620                 625                 630

Thr Val Ile Arg Ala Thr Val Cys Asp Cys His Gly His Val Glu
                635                 640                 645

Thr Cys Pro Gly Pro Trp Lys Gly Gly Phe Ile Leu Pro Val Leu
                650                 655                 660

Gly Ala Val Leu Ala Leu Leu Phe Leu Leu Leu Val Leu Leu Leu
                665                 670                 675

Leu Val Arg Lys Lys Arg Lys Ile Lys Glu Pro Leu Leu Leu Pro
                680                 685                 690

Glu Asp Asp Thr Arg Asp Asn Val Phe Tyr Tyr Gly Glu Glu Gly
                695                 700                 705

Gly Gly Glu Glu Asp Gln Asp Tyr Asp Ile Thr Gln Leu His Arg
                710                 715                 720

Gly Leu Glu Ala Arg Pro Glu Val Val Leu Arg Asn Asp Val Ala
                725                 730                 735

Pro Thr Ile Ile Pro Thr Pro Met Tyr Arg Pro Arg Pro Ala Asn
                740                 745                 750

Pro Asp Glu Ile Gly Asn Phe Ile Ile Glu Asn Leu Lys Ala Ala
                755                 760                 765

Asn Thr Asp Pro Thr Ala Pro Pro Tyr Asp Thr Leu Leu Val Phe
                770                 775                 780

Asp Tyr Glu Gly Ser Gly Ser Asp Ala Ala Ser Leu Ser Ser Leu
                785                 790                 795

Thr Ser Ser Ala Ser Asp Gln Asp Gln Asp Tyr Asp Tyr Leu Asn
```

800 805 810

Glu Trp Gly Ser Arg Phe Lys Lys Leu Ala Asp Met Tyr Gly Gly
815 820 825

Gly Glu Asp Asp

<210> 146
<211> 462
<212> PRT
<213> Homo sapien

<400> 146
Gly Asp Cys Gly Asp Arg Gly Thr Ala Arg Gly Thr Arg Arg Glu
1 5 10 15

Gly Thr Gly Ile Arg Ser Ser Gly Arg Ala Met Asp Gly Asn Asp
20 25 30

Asn Val Thr Leu Leu Phe Ala Pro Leu Leu Arg Asp Asn Tyr Thr
35 40 45

Leu Ala Pro Asn Ala Ser Ser Leu Gly Pro Gly Thr Asp Leu Ala
50 55 60

Leu Ala Pro Ala Ser Ser Ala Gly Pro Gly Pro Gly Leu Ser Leu
65 70 75

Gly Pro Gly Pro Ser Phe Gly Phe Ser Pro Gly Pro Thr Pro Thr
80 85 90

Pro Glu Pro Thr Thr Ser Gly Leu Ala Gly Gly Ala Ala Ser His
95 100 105

Gly Pro Ser Pro Phe Pro Arg Pro Trp Ala Pro His Ala Leu Pro
110 115 120

Phe Trp Asp Thr Pro Leu Asn His Gly Leu Asn Val Phe Val Gly
125 130 135

Ala Ala Leu Cys Ile Thr Met Leu Gly Leu Gly Cys Thr Val Asp
140 145 150

Val Asn His Phe Gly Ala His Val Arg Arg Pro Val Gly Ala Leu
155 160 165

Leu Ala Ala Leu Cys Gln Phe Gly Leu Leu Pro Leu Leu Ala Phe
170 175 180

Leu Leu Ala Leu Ala Phe Lys Leu Asp Glu Val Ala Ala Val Ala
185 190 195

Val Leu Leu Cys Gly Cys Cys Pro Gly Gly Asn Leu Ser Asn Leu
200 205 210

Met Ser Leu Leu Val Asp Gly Asp Met Asn Leu Ser Ile Ile Met
215 220 225

```
Thr Ile Ser Ser Thr Leu Leu Ala Leu Val Leu Met Pro Leu Cys
                230                 235                 240

Leu Trp Ile Tyr Ser Trp Ala Trp Ile Asn Thr Pro Ile Val Gln
                245                 250                 255

Leu Leu Pro Leu Gly Thr Val Thr Leu Thr Leu Cys Ser Thr Leu
                260                 265                 270

Ile Pro Ile Gly Leu Gly Val Phe Ile Arg Tyr Lys Tyr Ser Arg
                275                 280                 285

Val Ala Asp Tyr Ile Val Lys Val Ser Leu Trp Ser Leu Leu Val
                290                 295                 300

Thr Leu Val Val Leu Phe Ile Met Thr Gly Thr Met Leu Gly Pro
                305                 310                 315

Glu Leu Leu Ala Ser Ile Pro Ala Ala Val Tyr Val Ile Ala Ile
                320                 325                 330

Phe Met Pro Leu Ala Gly Tyr Ala Ser Gly Tyr Gly Leu Ala Thr
                335                 340                 345

Leu Phe His Leu Pro Pro Asn Cys Lys Arg Thr Val Cys Leu Glu
                350                 355                 360

Thr Gly Ser Gln Asn Val Gln Leu Cys Thr Ala Ile Leu Lys Leu
                365                 370                 375

Ala Phe Pro Pro Gln Phe Ile Gly Ser Met Tyr Met Phe Pro Leu
                380                 385                 390

Leu Tyr Ala Leu Phe Gln Ser Ala Glu Ala Gly Ile Phe Val Leu
                395                 400                 405

Ile Tyr Lys Met Tyr Gly Ser Glu Met Leu His Lys Arg Asp Pro
                410                 415                 420

Leu Asp Glu Asp Glu Asp Thr Asp Ile Ser Tyr Lys Lys Leu Lys
                425                 430                 435

Glu Glu Glu Met Ala Asp Thr Ser Tyr Gly Thr Val Lys Ala Glu
                440                 445                 450

Asn Ile Ile Met Met Glu Thr Ala Gln Thr Ser Leu
                455                 460

<210> 147
<211> 335
<212> PRT
<213> Homo sapien

<400> 147
Met Val Arg Arg Asp Arg Leu Arg Arg Met Arg Glu Trp Trp Val
 1               5                  10                  15

Gln Val Gly Leu Leu Ala Val Pro Leu Leu Ala Ala Tyr Leu His
```

20 25 30

Ile Pro Pro Pro Gln Leu Ser Pro Ala Leu His Ser Trp Lys Ser
35 40 45

Ser Gly Lys Phe Phe Thr Tyr Lys Gly Leu Arg Ile Phe Tyr Gln
50 55 60

Asp Ser Val Gly Val Val Gly Ser Pro Glu Ile Val Val Leu Leu
65 70 75

His Gly Phe Pro Thr Ser Ser Tyr Asp Trp Tyr Lys Ile Trp Lys
80 85 90

Gly Leu Thr Leu Arg Phe His Arg Val Ile Ala Leu Asp Phe Leu
95 100 105

Gly Phe Gly Phe Ser Asp Lys Pro Arg Pro His His Tyr Ser Ile
110 115 120

Phe Glu Gln Ala Ser Ile Val Glu Ala Leu Leu Arg His Leu Gly
125 130 135

Leu Gln Asn Arg Arg Ile Asn Leu Leu Ser His Asp Tyr Gly Asp
140 145 150

Ile Val Ala Gln Glu Leu Leu Tyr Arg Tyr Lys Gln Asn Arg Ser
155 160 165

Gly Arg His Thr Ile Lys Ser Leu Cys Leu Ser Asn Gly Gly Ile
170 175 180

Phe Pro Glu Thr His Arg Pro Leu Leu Leu Gln Lys Leu Leu Lys
185 190 195

Asp Gly Gly Val Leu Ser Pro Ile Leu Thr Arg Leu Met Asn Phe
200 205 210

Phe Val Phe Ser Arg Gly Leu Thr Pro Val Phe Gly Pro Tyr Thr
215 220 225

Arg Pro Ser Glu Ser Glu Leu Trp Asp Met Trp Ala Gly Ile Arg
230 235 240

Asn Asn Asp Gly Asn Leu Val Ile Asp Ser Leu Leu Gln Tyr Ile
245 250 255

Asn Gln Arg Lys Lys Phe Arg Arg Arg Trp Val Gly Ala Leu Ala
260 265 270

Ser Val Thr Ile Pro Ile His Phe Ile Tyr Gly Pro Leu Asp Pro
275 280 285

Val Asn Pro Tyr Pro Glu Phe Leu Glu Leu Tyr Arg Lys Thr Leu
290 295 300

Pro Arg Ser Thr Val Ser Ile Leu Asp Asp His Ile Ser His Tyr
305 310 315

```
Pro Gln Leu Glu Asp Pro Met Gly Phe Leu Asn Ala Tyr Met Gly
                320                 325                 330

Phe Ile Asn Ser Phe
                335

<210> 148
<211> 1537
<212> PRT
<213> Homo sapien

<400> 148
Gly Trp Thr Ser His Leu Ser Asn Cys Gly Glu Ser Asn Arg Pro
  1               5                  10                  15

Pro Lys Glu Arg Ser Cys Phe Arg Val Cys Asp Trp His Ser Asp
                 20                  25                  30

Leu Phe Gln Trp Glu Val Ser Asp Trp His His Cys Val Leu Val
                 35                  40                  45

Pro Tyr Ala Arg Gly Glu Val Lys Pro Arg Thr Ala Glu Cys Val
                 50                  55                  60

Thr Ala Gln His Gly Leu Gln His Arg Met Val Arg Cys Ile Gln
                 65                  70                  75

Lys Leu Asn Arg Thr Val Val Ala Asn Glu Ile Cys Glu His Phe
                 80                  85                  90

Ala Leu Gln Pro Pro Thr Glu Gln Ala Cys Leu Ile Pro Cys Pro
                 95                 100                 105

Arg Asp Cys Val Val Ser Glu Phe Leu Pro Trp Ser Asn Cys Ser
                110                 115                 120

Lys Gly Cys Gly Lys Lys Leu Gln His Arg Thr Arg Ala Val Ile
                125                 130                 135

Ala Pro Pro Leu Phe Gly Gly Leu Gln Cys Pro Asn Leu Thr Glu
                140                 145                 150

Ser Arg Ala Cys Asp Ala Pro Ile Ser Cys Pro Leu Gly Glu Glu
                155                 160                 165

Glu Tyr Thr Phe Ser Leu Lys Val Gly Pro Trp Ser Lys Cys Arg
                170                 175                 180

Leu Pro His Leu Lys Glu Ile Asn Pro Ser Gly Arg Thr Val Leu
                185                 190                 195

Asp Phe Asn Ser Asp Ser Asn Glu Arg Val Thr Phe Lys His Gln
                200                 205                 210

Ser Tyr Lys Ala His His His Ser Lys Ser Trp Ala Ile Glu Ile
                215                 220                 225

Gly Tyr Gln Thr Arg Gln Val Ser Cys Thr Arg Ser Asp Gly Gln
```

```
                    230                           235                           240

Asn Ala Met Leu Ser Leu Cys Leu Gln Asp Ser Phe Pro Leu Thr
                245                 250                 255

Val Gln Ser Cys Ile Met Pro Lys Asp Cys Glu Thr Ser Gln Trp
                260                 265                 270

Ser Ser Trp Ser Pro Cys Ser Lys Thr Cys Arg Ser Gly Ser Leu
                275                 280                 285

Leu Pro Gly Phe Arg Ser Arg Ser Arg Asn Val Lys His Met Ala
                290                 295                 300

Ile Gly Gly Gly Lys Glu Cys Pro Glu Leu Leu Glu Lys Glu Ala
                305                 310                 315

Cys Ile Val Glu Gly Glu Leu Leu Gln Gln Cys Pro Arg Tyr Ser
                320                 325                 330

Trp Arg Thr Ser Glu Trp Lys Glu Cys Gln Val Ser Leu Leu Leu
                335                 340                 345

Glu Gln Gln Asp Pro His Trp His Val Thr Gly Pro Val Cys Gly
                350                 355                 360

Gly Gly Ile Gln Thr Arg Glu Val Tyr Cys Ala Gln Ser Val Pro
                365                 370                 375

Ala Ala Ala Ala Leu Arg Ala Lys Glu Val Ser Arg Pro Val Glu
                380                 385                 390

Lys Ala Leu Cys Val Gly Pro Ala Pro Leu Pro Ser Gln Leu Cys
                395                 400                 405

Asn Ile Pro Cys Ser Thr Asp Cys Ile Val Ser Ser Trp Ser Ala
                410                 415                 420

Trp Gly Leu Cys Ile His Glu Asn Cys His Glu Pro Gln Gly Lys
                425                 430                 435

Lys Gly Phe Arg Thr Arg Gln Arg His Val Leu Met Glu Ser Thr
                440                 445                 450

Gly Pro Ala Gly His Cys Pro His Leu Val Glu Ser Val Pro Cys
                455                 460                 465

Glu Asp Pro Met Cys Tyr Arg Trp Leu Ala Ser Glu Gly Ile Cys
                470                 475                 480

Phe Pro Asp His Gly Lys Cys Gly Leu Gly His Arg Ile Leu Lys
                485                 490                 495

Ala Val Cys Gln Asn Asp Arg Gly Glu Asp Val Ser Gly Ser Leu
                500                 505                 510

Cys Pro Val Pro Pro Pro Pro Glu Arg Lys Ser Cys Glu Ile Pro
                515                 520                 525
```

```
Cys Arg Met Asp Cys Val Leu Ser Glu Trp Thr Glu Trp Ser Ser
                530                 535                 540

Cys Ser Gln Ser Cys Ser Asn Lys Asn Ser Asp Gly Lys Gln Thr
                545                 550                 555

Arg Ser Arg Thr Ile Leu Ala Leu Ala Gly Glu Gly Gly Lys Pro
                560                 565                 570

Cys Pro Pro Ser Gln Ala Leu Gln Glu His Arg Leu Cys Asn Asp
                575                 580                 585

His Ser Cys Met Gln Leu His Trp Glu Thr Ser Pro Trp Gly Pro
                590                 595                 600

Cys Ser Glu Asp Thr Leu Val Thr Ala Leu Asn Ala Thr Ile Gly
                605                 610                 615

Trp Asn Gly Glu Ala Thr Cys Gly Val Gly Ile Gln Thr Arg Arg
                620                 625                 630

Val Phe Cys Val Lys Ser His Val Gly Gln Val Met Thr Lys Arg
                635                 640                 645

Cys Pro Asp Ser Thr Arg Pro Glu Thr Val Arg Pro Cys Phe Leu
                650                 655                 660

Pro Cys Lys Lys Asp Cys Ile Val Thr Ala Phe Ser Glu Trp Thr
                665                 670                 675

Pro Cys Pro Arg Met Cys Gln Ala Gly Asn Ala Thr Val Lys Gln
                680                 685                 690

Ser Arg Tyr Arg Ile Ile Ile Gln Glu Ala Ala Asn Gly Gly Gln
                695                 700                 705

Glu Cys Pro Asp Thr Leu Tyr Glu Glu Arg Glu Cys Glu Asp Val
                710                 715                 720

Ser Leu Cys Pro Val Tyr Arg Trp Lys Pro Gln Lys Trp Ser Pro
                725                 730                 735

Cys Ile Leu Val Pro Glu Ser Val Trp Gln Gly Ile Thr Gly Ser
                740                 745                 750

Ser Glu Ala Cys Gly Lys Gly Leu Gln Thr Arg Ala Val Ser Cys
                755                 760                 765

Ile Ser Asp Asp Asn Arg Ser Ala Glu Met Met Glu Cys Leu Lys
                770                 775                 780

Gln Thr Asn Gly Met Pro Leu Leu Val Gln Glu Cys Thr Val Pro
                785                 790                 795

Cys Arg Glu Asp Cys Thr Phe Thr Ala Trp Ser Lys Phe Thr Pro
                800                 805                 810

Cys Ser Thr Asn Cys Glu Ala Thr Lys Ser Arg Arg Arg Gln Leu
```

815 820 825

Thr Gly Lys Ser Arg Lys Lys Glu Lys Cys Gln Asp Ser Asp Leu
830 835 840

Tyr Pro Leu Val Glu Thr Glu Leu Cys Pro Cys Asp Glu Phe Ile
845 850 855

Ser Gln Pro Tyr Gly Asn Trp Ser Asp Cys Ile Leu Pro Glu Gly
860 865 870

Arg Arg Glu Pro His Arg Gly Leu Arg Val Gln Ala Asp Ser Lys
875 880 885

Glu Cys Gly Glu Gly Leu Arg Phe Arg Ala Val Ala Cys Ser Asp
890 895 900

Lys Asn Gly Arg Pro Val Asp Pro Ser Phe Cys Ser Ser Ser Gly
905 910 915

Tyr Ile Gln Glu Lys Cys Val Ile Pro Cys Pro Phe Asp Cys Lys
920 925 930

Leu Ser Asp Trp Ser Ser Trp Gly Ser Cys Ser Ser Ser Cys Gly
935 940 945

Ile Gly Val Arg Ile Arg Ser Lys Trp Leu Lys Glu Lys Pro Tyr
950 955 960

Asn Gly Gly Arg Pro Cys Pro Lys Leu Asp Leu Lys Asn Gln Ala
965 970 975

Gln Val His Glu Ala Val Pro Cys Tyr Ser Glu Cys Asn Gln Tyr
980 985 990

Ser Trp Val Val Glu His Trp Ser Ser Cys Lys Ile Asn Asn Glu
995 1000 1005

Leu Arg Ser Leu Arg Cys Gly Gly Gly Thr Gln Ser Arg Lys Ile
1010 1015 1020

Arg Cys Val Asn Thr Ala Asp Gly Glu Gly Gly Ala Val Asp Ser
1025 1030 1035

Asn Leu Cys Asn Gln Asp Glu Ile Pro Pro Glu Thr Gln Ser Cys
1040 1045 1050

Ser Leu Met Cys Pro Asn Glu Cys Val Met Ser Glu Trp Gly Leu
1055 1060 1065

Trp Ser Lys Cys Pro Gln Ser Cys Asp Pro His Thr Met Gln Arg
1070 1075 1080

Arg Thr Arg His Leu Leu Arg Pro Ser Leu Asn Ser Arg Thr Cys
1085 1090 1095

Ala Glu Asp Ser Gln Val Gln Pro Cys Leu Leu Asn Glu Asn Cys
1100 1105 1110

Phe Gln Phe Gln Tyr Asn Leu Thr Glu Trp Ser Thr Cys Gln Leu
1115 1120 1125

Ser Glu Asn Ala Pro Cys Gly Gln Gly Val Arg Thr Arg Leu Leu
1130 1135 1140

Ser Cys Val Cys Ser Asp Gly Lys Pro Val Ser Met Asp Gln Cys
1145 1150 1155

Glu Gln His Asn Leu Glu Lys Pro Gln Arg Met Ser Ile Pro Cys
1160 1165 1170

Leu Val Glu Cys Val Val Asn Cys Gln Leu Ser Gly Trp Thr Ala
1175 1180 1185

Trp Thr Glu Cys Ser Gln Thr Cys Gly His Gly Gly Arg Met Ser
1190 1195 1200

Arg Thr Arg Phe Ile Ile Met Pro Thr Gln Gly Glu Gly Arg Pro
1205 1210 1215

Cys Pro Thr Glu Leu Thr Gln Glu Lys Thr Cys Pro Val Thr Pro
1220 1225 1230

Cys Tyr Ser Trp Val Leu Gly Asn Trp Ser Ala Cys Lys Leu Glu
1235 1240 1245

Gly Gly Asp Cys Gly Glu Gly Val Gln Ile Arg Ser Leu Ser Cys
1250 1255 1260

Met Val His Ser Gly Ser Ile Ser His Ala Ala Gly Arg Val Glu
1265 1270 1275

Asp Ala Leu Cys Gly Glu Met Pro Phe Gln Asp Ser Ile Leu Lys
1280 1285 1290

Gln Leu Cys Ser Val Pro Cys Pro Gly Asp Cys His Leu Thr Glu
1295 1300 1305

Trp Ser Glu Trp Ser Thr Cys Glu Leu Thr Cys Ile Asp Gly Arg
1310 1315 1320

Ser Phe Glu Thr Val Gly Arg Gln Ser Arg Ser Arg Thr Phe Ile
1325 1330 1335

Ile Gln Ser Phe Glu Asn Gln Asp Ser Cys Pro Gln Gln Val Leu
1340 1345 1350

Glu Thr Arg Pro Cys Thr Gly Gly Lys Cys Tyr His Tyr Thr Trp
1355 1360 1365

Lys Ala Ser Leu Trp Asn Asn Asn Glu Arg Thr Val Trp Cys Gln
1370 1375 1380

Arg Ser Asp Gly Val Asn Val Thr Gly Gly Cys Ser Pro Gln Ala
1385 1390 1395

Arg Pro Ala Ala Ile Arg Gln Cys Ile Pro Ala Cys Arg Lys Pro

1400 1405 1410

Phe Ser Tyr Cys Thr Gln Gly Gly Val Cys Gly Cys Glu Lys Gly
1415 1420 1425

Tyr Thr Glu Ile Met Arg Ser Asn Gly Phe Leu Asp Tyr Cys Met
1430 1435 1440

Lys Val Pro Gly Ser Glu Asp Lys Lys Ala Asp Val Lys Asn Leu
1445 1450 1455

Ser Gly Lys Asn Arg Pro Val Asn Ser Lys Ile His Asp Ile Phe
1460 1465 1470

Lys Gly Trp Ser Leu Gln Pro Leu Asp Pro Asp Gly Arg Val Lys
1475 1480 1485

Ile Trp Val Tyr Gly Val Ser Gly Gly Ala Phe Leu Ile Met Ile
1490 1495 1500

Phe Leu Ile Phe Thr Ser Tyr Leu Val Cys Lys Lys Pro Lys Pro
1505 1510 1515

His Gln Ser Thr Pro Pro Gln Gln Lys Pro Leu Thr Leu Ala Tyr
1520 1525 1530

Asp Gly Asp Leu Asp Met Asn
1535

<210> 149
<211> 453
<212> PRT
<213> Homo sapien

<400> 149
Glu Lys Pro Val Arg Lys Gln Thr Pro Pro Thr Thr Gln Ile His
1 5 10 15

Cys Gly Pro Pro Lys Pro Val Leu Ser Pro Ser Phe Lys Thr Pro
20 25 30

Ala Thr Pro Leu Gly Leu Ser Thr Ser Thr Gly His Met Leu Met
35 40 45

Pro Leu Cys Gly Leu Leu Trp Trp Trp Trp Cys Cys Cys Ser Gly
50 55 60

Trp Tyr Cys Tyr Gly Leu Cys Ala Pro Ala Pro Gln Met Leu Arg
65 70 75

His Gln Gly Leu Leu Lys Cys Arg Cys Arg Met Leu Phe Asn Asp
80 85 90

Leu Lys Val Phe Leu Leu Arg Arg Pro Pro Gln Ala Pro Leu Pro
95 100 105

Met His Gly Asp Pro Gln Pro Pro Gly Leu Ala Ala Asn Asn Thr
110 115 120

```
Leu Pro Ala Leu Gly Ala Gly Gly Trp Ala Gly Trp Arg Gly Pro
                125                 130                 135

Arg Glu Val Val Gly Arg Glu Pro Pro Pro Val Pro Pro Pro Pro
                140                 145                 150

Pro Leu Pro Pro Ser Ser Val Glu Asp Asp Trp Gly Gly Pro Ala
                155                 160                 165

Thr Glu Pro Pro Ala Ser Leu Leu Ser Ser Ala Ser Ser Asp Asp
                170                 175                 180

Phe Cys Lys Glu Lys Thr Glu Asp Arg Tyr Ser Leu Gly Ser Ser
                185                 190                 195

Leu Asp Ser Gly Met Arg Thr Pro Leu Cys Arg Ile Cys Phe Gln
                200                 205                 210

Gly Pro Glu Gln Gly Glu Leu Leu Ser Pro Cys Arg Cys Asp Gly
                215                 220                 225

Ser Val Lys Cys Thr His Gln Pro Cys Leu Ile Lys Trp Ile Ser
                230                 235                 240

Glu Arg Gly Cys Trp Ser Cys Glu Leu Cys Tyr Tyr Lys Tyr His
                245                 250                 255

Val Ile Ala Ile Ser Thr Lys Asn Pro Leu Gln Trp Gln Ala Ile
                260                 265                 270

Ser Leu Thr Val Ile Glu Lys Val Gln Val Ala Ala Ala Ile Leu
                275                 280                 285

Gly Ser Leu Phe Leu Ile Ala Ser Ile Ser Trp Leu Ile Trp Ser
                290                 295                 300

Thr Phe Ser Pro Ser Ala Arg Trp Gln Arg Gln Asp Leu Leu Phe
                305                 310                 315

Gln Ile Cys Tyr Gly Met Tyr Gly Phe Met Asp Val Val Cys Ile
                320                 325                 330

Gly Leu Ile Ile His Glu Gly Pro Ser Val Tyr Arg Ile Phe Lys
                335                 340                 345

Arg Trp Gln Ala Val Asn Gln Gln Trp Lys Val Leu Asn Tyr Asp
                350                 355                 360

Lys Thr Lys Asp Leu Glu Asp Gln Lys Ala Gly Gly Arg Thr Asn
                365                 370                 375

Pro Arg Thr Ser Ser Ser Thr Gln Ala Asn Ile Pro Ser Ser Glu
                380                 385                 390

Glu Glu Thr Ala Gly Thr Pro Ala Pro Glu Gln Gly Pro Ala Gln
                395                 400                 405

Ala Ala Gly His Pro Ser Gly Pro Leu Ser His His His Cys Ala
```

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                410                 415                 420

Tyr Thr Ile Leu His Ile Leu Ser His Leu Arg Pro His Glu Gln
                425                 430                 435

Arg Ser Pro Pro Gly Ser Ser Arg Glu Leu Val Met Arg Val Thr
                440                 445                 450

Thr Val Asn


<210> 150
<211> 981
<212> PRT
<213> Homo sapien

<400> 150
Gln Glu Gln Gly Asp Lys Met Met Glu Glu Tyr Ser Leu Glu Lys
 1               5                  10                  15

Asn Glu Arg Ala Cys Ile Asp Phe Ala Ile Ser Ala Lys Pro Leu
                20                  25                  30

Thr Arg His Met Pro Gln Asn Lys Gln Ser Phe Gln Tyr Arg Met
                35                  40                  45

Trp Gln Phe Val Val Ser Pro Pro Phe Glu Tyr Thr Ile Met Ala
                50                  55                  60

Met Ile Ala Leu Asn Thr Ile Val Leu Met Met Lys Phe Tyr Gly
                65                  70                  75

Ala Ser Val Ala Tyr Glu Asn Ala Leu Arg Val Phe Asn Ile Val
                80                  85                  90

Phe Thr Ser Leu Phe Ser Leu Glu Cys Val Leu Lys Val Met Ala
                95                 100                 105

Phe Gly Ile Leu Asn Tyr Phe Arg Asp Ala Trp Asn Ile Phe Asp
               110                 115                 120

Phe Val Thr Val Leu Gly Ser Ile Thr Asp Ile Leu Val Thr Glu
               125                 130                 135

Phe Gly Asn Asn Phe Ile Asn Leu Ser Phe Leu Arg Leu Phe Arg
               140                 145                 150

Ala Ala Arg Leu Ile Lys Leu Leu Arg Gln Gly Tyr Thr Ile Arg
               155                 160                 165

Ile Leu Leu Trp Thr Phe Val Gln Ser Phe Lys Ala Leu Pro Tyr
               170                 175                 180

Val Cys Leu Leu Ile Ala Met Leu Phe Phe Ile Tyr Ala Ile Ile
               185                 190                 195

Gly Met Gln Val Phe Gly Asn Ile Gly Ile Asp Val Glu Asp Glu
               200                 205                 210
```

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Asp Ser Asp Glu Asp Glu Phe Gln Ile Thr Glu His Asn Asn Phe
                215                 220                 225

Arg Thr Phe Phe Gln Ala Leu Met Leu Leu Phe Arg Ser Ala Thr
                230                 235                 240

Gly Glu Ala Trp His Asn Ile Met Leu Ser Cys Leu Ser Gly Lys
                245                 250                 255

Pro Cys Asp Lys Asn Ser Gly Ile Leu Thr Arg Glu Cys Gly Asn
                260                 265                 270

Glu Phe Ala Tyr Phe Tyr Phe Val Ser Phe Ile Phe Leu Cys Ser
                275                 280                 285

Phe Leu Met Leu Asn Leu Phe Val Ala Val Ile Met Asp Asn Phe
                290                 295                 300

Glu Tyr Leu Thr Arg Asp Ser Ser Ile Leu Gly Pro His His Leu
                305                 310                 315

Asp Glu Tyr Val Arg Val Trp Ala Glu Tyr Asp Pro Ala Ala Cys
                320                 325                 330

Gly Arg Ile His Tyr Lys Asp Met Tyr Ser Leu Leu Arg Val Ile
                335                 340                 345

Ser Pro Pro Leu Gly Leu Gly Lys Lys Cys Pro His Arg Val Ala
                350                 355                 360

Cys Lys Arg Leu Leu Arg Met Asp Leu Pro Val Ala Asp Asp Asn
                365                 370                 375

Thr Val His Phe Asn Ser Thr Leu Met Ala Leu Ile Arg Thr Ala
                380                 385                 390

Leu Asp Ile Lys Ile Ala Lys Gly Gly Ala Asp Lys Gln Gln Met
                395                 400                 405

Asp Ala Glu Leu Arg Lys Glu Met Met Ala Ile Trp Pro Asn Leu
                410                 415                 420

Ser Gln Lys Thr Leu Asp Leu Leu Val Thr Pro His Lys Ser Thr
                425                 430                 435

Asp Leu Thr Val Gly Lys Ile Tyr Ala Ala Met Met Ile Met Glu
                440                 445                 450

Tyr Tyr Arg Gln Ser Lys Ala Lys Lys Leu Gln Ala Met Arg Glu
                455                 460                 465

Glu Gln Asp Arg Thr Pro Leu Met Phe Gln Arg Met Glu Pro Pro
                470                 475                 480

Ser Pro Thr Gln Glu Gly Gly Pro Gly Gln Asn Ala Leu Pro Ser
                485                 490                 495

Thr Gln Leu Asp Pro Gly Gly Ala Leu Met Ala His Glu Ser Gly
```

500 505 510

Leu Lys Glu Ser Pro Ser Trp Val Thr Gln Arg Ala Gln Glu Met
515 520 525

Phe Gln Lys Thr Gly Thr Trp Ser Pro Glu Gln Gly Pro Pro Thr
530 535 540

Asp Met Pro Asn Ser Gln Pro Asn Ser Gln Ser Val Glu Met Arg
545 550 555

Glu Met Gly Arg Asp Gly Tyr Ser Asp Ser Glu His Tyr Leu Pro
560 565 570

Met Glu Gly Gln Gly Arg Ala Ala Ser Met Pro Arg Leu Pro Ala
575 580 585

Glu Asn Gln Thr Ile Ser Asp Thr Ser Pro Met Lys Arg Ser Ala
590 595 600

Ser Val Leu Gly Pro Lys Ala Arg Arg Leu Asp Asp Tyr Ser Leu
605 610 615

Glu Arg Val Pro Pro Glu Glu Asn Gln Arg His His Gln Arg Arg
620 625 630

Arg Asp Arg Ser His Arg Ala Ser Glu Arg Ser Leu Gly Arg Tyr
635 640 645

Thr Asp Val Asp Thr Gly Leu Gly Thr Asp Leu Ser Met Thr Thr
650 655 660

Gln Ser Gly Asp Leu Pro Ser Lys Glu Arg Asp Gln Glu Arg Gly
665 670 675

Arg Pro Lys Asp Arg Lys His Arg Gln His His His His His His
680 685 690

His His His His Pro Pro Pro Pro Asp Lys Asp Arg Tyr Ala Gln
695 700 705

Glu Arg Pro Asp His Gly Arg Ala Arg Ala Arg Asp Gln Arg Trp
710 715 720

Ser Arg Ser Pro Ser Glu Gly Arg Glu His Met Ala His Arg Gln
725 730 735

Gly Ser Ser Ser Val Ser Gly Ser Pro Ala Pro Ser Thr Ser Gly
740 745 750

Thr Ser Thr Pro Arg Arg Gly Arg Arg Gln Leu Pro Gln Thr Pro
755 760 765

Ser Thr Pro Arg Pro His Val Ser Tyr Ser Pro Val Ile Arg Lys
770 775 780

Ala Gly Gly Ser Gly Pro Pro Gln Gln Gln Gln Gln Gln Gln Gln
785 790 795

Gln Gln Gln Gln Ala Val Ala Arg Pro Gly Arg Ala Ala Thr Ser
800 805 810

Gly Pro Arg Arg Tyr Pro Gly Pro Thr Ala Glu Pro Leu Ala Gly
815 820 825

Asp Arg Pro Pro Thr Gly Gly His Ser Ser Gly Arg Ser Pro Arg
830 835 840

Met Glu Arg Arg Val Pro Gly Pro Ala Arg Ser Glu Ser Pro Arg
845 850 855

Ala Cys Arg His Gly Gly Ala Arg Trp Pro Ala Ser Gly Pro His
860 865 870

Val Ser Glu Gly Pro Pro Gly Pro Arg His His Gly Tyr Tyr Arg
875 880 885

Gly Ser Asp Tyr Asp Glu Ala Asp Gly Pro Gly Ser Gly Gly Gly
890 895 900

Glu Glu Ala Met Ala Gly Ala Tyr Asp Ala Pro Pro Pro Val Arg
905 910 915

His Ala Ser Ser Gly Ala Thr Gly Arg Ser Pro Arg Thr Pro Arg
920 925 930

Ala Ser Gly Pro Ala Cys Ala Ser Pro Ser Arg His Gly Arg Arg
935 940 945

Leu Pro Asn Gly Tyr Tyr Pro Ala His Gly Leu Ala Arg Pro Arg
950 955 960

Gly Pro Gly Ser Arg Lys Gly Leu His Glu Pro Tyr Ser Glu Ser
965 970 975

Asp Asp Asp Trp Cys Asn
980

<210> 151
<211> 996
<212> PRT
<213> Homo sapien

<400> 151
Met Arg Pro Val Ala Leu Leu Leu Leu Pro Ser Leu Leu Ala Leu
1 5 10 15

Leu Ala His Gly Leu Ser Leu Glu Ala Pro Thr Val Gly Lys Gly
20 25 30

Gln Ala Pro Gly Ile Glu Glu Thr Asp Gly Glu Leu Thr Ala Ala
35 40 45

Pro Thr Pro Glu Gln Pro Glu Arg Gly Val His Phe Val Thr Thr
50 55 60

Ala Pro Thr Leu Lys Leu Leu Asn His His Pro Leu Leu Glu Glu

65 70 75

Phe Leu His Glu Gly Leu Glu Lys Gly Asp Glu Glu Leu Arg Pro
80 85 90

Ala Leu Ser Phe Gln Pro Asp Pro Pro Ala Pro Phe Thr Pro Ser
95 100 105

Pro Leu Pro Arg Leu Ala Asn Gln Asp Ser Arg Pro Val Phe Thr
110 115 120

Ser Pro Thr Pro Ala Met Ala Ala Val Pro Thr Gln Pro Gln Ser
125 130 135

Lys Glu Gly Pro Trp Ser Pro Asp Pro Glu Ser Glu Ser Pro Met
140 145 150

Leu Arg Ile Thr Ala Pro Leu Pro Pro Gly Pro Ser Met Ala Val
155 160 165

Pro Thr Leu Gly Pro Gly Glu Ile Ala Ser Thr Thr Pro Pro Ser
170 175 180

Arg Ala Trp Thr Pro Thr Gln Glu Gly Pro Gly Asp Met Gly Arg
185 190 195

Pro Trp Val Ala Glu Val Val Ser Gln Gly Ala Gly Ile Gly Ile
200 205 210

Gln Gly Thr Ile Thr Ser Ser Thr Ala Ser Gly Asp Asp Glu Glu
215 220 225

Thr Thr Thr Thr Thr Thr Ile Ile Thr Thr Thr Ile Thr Thr Val
230 235 240

Gln Thr Pro Gly Pro Cys Ser Trp Asn Phe Ser Gly Pro Glu Gly
245 250 255

Ser Leu Asp Ser Pro Thr Asp Leu Ser Ser Pro Thr Asp Val Gly
260 265 270

Leu Asp Cys Phe Phe Tyr Ile Ser Val Tyr Pro Gly Tyr Gly Val
275 280 285

Glu Ile Lys Val Lys Asn Ile Ser Leu Arg Glu Gly Glu Thr Val
290 295 300

Thr Val Glu Gly Leu Gly Gly Pro Asp Pro Leu Pro Leu Ala Asn
305 310 315

Gln Ser Phe Leu Leu Arg Gly Gln Val Ile Arg Ser Pro Thr His
320 325 330

Gln Ala Ala Leu Arg Phe Gln Ser Leu Pro Pro Pro Ala Gly Pro
335 340 345

Gly Thr Phe His Phe His Tyr Gln Ala Tyr Leu Leu Ser Cys His
350 355 360

```
Phe Pro Arg Arg Pro Ala Tyr Gly Asp Val Thr Val Thr Ser Leu
                365                 370                 375

His Pro Gly Gly Ser Ala Arg Phe His Cys Ala Thr Gly Tyr Gln
                380                 385                 390

Leu Lys Gly Ala Arg His Leu Thr Cys Leu Asn Ala Thr Gln Pro
                395                 400                 405

Phe Trp Asp Ser Lys Glu Pro Val Cys Ile Gly Glu Cys Pro Gly
                410                 415                 420

Val Ile Arg Asn Ala Thr Thr Gly Arg Ile Val Ser Pro Gly Phe
                425                 430                 435

Pro Gly Asn Tyr Ser Asn Asn Leu Thr Cys His Trp Leu Leu Glu
                440                 445                 450

Ala Pro Glu Gly Gln Arg Leu His Leu His Phe Glu Lys Val Ser
                455                 460                 465

Leu Ala Glu Asp Asp Asp Arg Leu Ile Ile Arg Asn Gly Asp Asn
                470                 475                 480

Val Glu Ala Pro Pro Val Tyr Asp Ser Tyr Glu Val Glu Tyr Leu
                485                 490                 495

Pro Ile Glu Gly Leu Leu Ser Ser Gly Lys His Phe Phe Val Glu
                500                 505                 510

Leu Ser Thr Asp Ser Ser Gly Ala Ala Ala Gly Met Ala Leu Arg
                515                 520                 525

Tyr Glu Ala Phe Gln Gln Gly His Cys Tyr Glu Pro Phe Val Lys
                530                 535                 540

Tyr Gly Asn Phe Ser Ser Ser Thr Pro Thr Tyr Pro Val Gly Thr
                545                 550                 555

Thr Val Glu Phe Ser Cys Asp Pro Gly Tyr Thr Leu Glu Gln Gly
                560                 565                 570

Ser Ile Ile Ile Glu Cys Val Asp Pro His Asp Pro Gln Trp Asn
                575                 580                 585

Glu Thr Glu Pro Ala Cys Arg Ala Val Cys Ser Gly Glu Ile Thr
                590                 595                 600

Asp Ser Ala Gly Val Val Leu Ser Pro Asn Trp Pro Glu Pro Tyr
                605                 610                 615

Gly Arg Gly Gln Asp Cys Ile Trp Gly Val His Val Glu Glu Asp
                620                 625                 630

Lys Arg Ile Met Leu Asp Ile Arg Val Leu Arg Ile Gly Pro Gly
                635                 640                 645

Asp Val Leu Thr Phe Tyr Asp Gly Asp Asp Leu Thr Ala Arg Val
```

650 655 660

Leu Gly Gln Tyr Ser Gly Pro Arg Ser His Phe Lys Leu Phe Thr
665 670 675

Ser Met Ala Asp Val Thr Ile Gln Phe Gln Ser Asp Pro Gly Thr
680 685 690

Ser Val Leu Gly Tyr Gln Gln Gly Phe Val Ile His Phe Phe Glu
695 700 705

Val Pro Arg Asn Asp Thr Cys Pro Glu Leu Pro Glu Ile Pro Asn
710 715 720

Gly Trp Lys Ser Pro Ser Gln Pro Glu Leu Val His Gly Thr Val
725 730 735

Val Thr Tyr Gln Cys Tyr Pro Gly Tyr Gln Val Val Gly Ser Ser
740 745 750

Val Leu Met Cys Gln Trp Asp Leu Thr Trp Ser Glu Asp Leu Pro
755 760 765

Ser Cys Gln Arg Val Thr Ser Cys His Asp Pro Gly Asp Val Glu
770 775 780

His Ser Arg Arg Leu Ile Ser Ser Pro Lys Phe Pro Val Gly Ala
785 790 795

Thr Val Gln Tyr Ile Cys Asp Gln Gly Phe Val Leu Met Gly Ser
800 805 810

Ser Ile Leu Thr Cys His Asp Arg Gln Ala Gly Ser Pro Lys Trp
815 820 825

Ser Asp Arg Ala Pro Lys Cys Leu Leu Glu Gln Leu Lys Pro Cys
830 835 840

His Gly Leu Ser Ala Pro Glu Asn Gly Ala Arg Ser Pro Glu Lys
845 850 855

Gln Leu His Pro Ala Gly Ala Thr Ile His Phe Ser Cys Ala Pro
860 865 870

Gly Tyr Val Leu Lys Gly Gln Ala Ser Ile Lys Cys Val Pro Gly
875 880 885

His Pro Ser His Trp Ser Asp Pro Pro Pro Ile Cys Arg Ala Ala
890 895 900

Ser Leu Asp Gly Ser Thr Thr Val Ala Ala Trp Met Val Ala Lys
905 910 915

Ala Pro Ala Ala Ser Ser Thr Leu Asp Ala Ala His Ile Ala Ala
920 925 930

Ala Ile Phe Leu Pro Leu Val Ala Met Val Leu Leu Val Gly Gly
935 940 945

Val Tyr Phe Tyr Phe Ser Arg Leu Gln Gly Lys Ser Ser Leu Gln
950 955 960

Leu Pro Arg Pro Arg Pro Arg Pro Tyr Asn Arg Ile Thr Ile Glu
965 970 975

Ser Ala Phe Asp Asn Pro Thr Tyr Glu Thr Gly Ser Leu Ser Phe
980 985 990

Ala Gly Asp Glu Arg Ile
995

<210> 152
<211> 844
<212> PRT
<213> Homo sapien

<400> 152
Met Val Gln Lys Ser Arg Asn Gly Gly Val Tyr Pro Gly Pro Ser
1 5 10 15

Gly Glu Lys Lys Leu Lys Val Gly Phe Val Gly Leu Asp Pro Gly
20 25 30

Ala Pro Asp Ser Thr Arg Asp Gly Ala Leu Leu Ile Ala Gly Ser
35 40 45

Glu Ala Pro Lys Arg Gly Ser Ile Leu Ser Lys Pro Arg Ala Gly
50 55 60

Gly Ala Gly Ala Gly Lys Pro Pro Lys Arg Asn Ala Phe Tyr Arg
65 70 75

Lys Leu Gln Asn Phe Leu Tyr Asn Val Leu Glu Arg Pro Arg Gly
80 85 90

Trp Ala Phe Ile Tyr His Ala Tyr Val Phe Leu Leu Val Phe Ser
95 100 105

Cys Leu Val Leu Ser Val Phe Ser Thr Ile Lys Glu Tyr Glu Lys
110 115 120

Ser Ser Glu Gly Ala Leu Tyr Ile Leu Glu Ile Val Thr Ile Val
125 130 135

Val Phe Gly Val Glu Tyr Phe Val Arg Ile Trp Ala Ala Gly Cys
140 145 150

Cys Cys Arg Tyr Arg Gly Trp Arg Gly Arg Leu Lys Phe Ala Arg
155 160 165

Lys Pro Phe Cys Val Ile Asp Ile Met Val Leu Ile Ala Ser Ile
170 175 180

Ala Val Leu Ala Ala Gly Ser Gln Gly Asn Val Phe Ala Thr Ser
185 190 195

Ala Leu Arg Ser Leu Arg Phe Leu Gln Ile Leu Arg Met Ile Arg

200 205 210

Met Asp Arg Arg Gly Gly Thr Trp Lys Leu Leu Gly Ser Val Val
215 220 225

Tyr Ala His Ser Lys Glu Leu Val Thr Ala Trp Tyr Ile Gly Phe
230 235 240

Leu Cys Leu Ile Leu Ala Ser Phe Leu Val Tyr Leu Ala Glu Lys
245 250 255

Gly Glu Asn Asp His Phe Asp Thr Tyr Ala Asp Ala Leu Trp Trp
260 265 270

Gly Leu Ile Thr Leu Thr Thr Ile Gly Tyr Gly Asp Lys Tyr Pro
275 280 285

Gln Thr Trp Asn Gly Arg Leu Leu Ala Ala Thr Phe Thr Leu Ile
290 295 300

Gly Val Ser Phe Phe Ala Leu Pro Ala Gly Ile Leu Gly Ser Gly
305 310 315

Phe Ala Leu Lys Val Gln Glu Gln His Arg Gln Lys His Phe Glu
320 325 330

Lys Arg Arg Asn Pro Ala Ala Gly Leu Ile Gln Ser Ala Trp Arg
335 340 345

Phe Tyr Ala Thr Asn Leu Ser Arg Thr Asp Leu His Ser Thr Trp
350 355 360

Gln Tyr Tyr Glu Arg Thr Val Thr Val Pro Met Tyr Arg Leu Ile
365 370 375

Pro Pro Leu Asn Gln Leu Glu Leu Leu Arg Asn Leu Lys Ser Lys
380 385 390

Ser Gly Leu Ala Phe Arg Lys Asp Pro Pro Pro Glu Pro Ser Pro
395 400 405

Ser Gln Lys Val Ser Leu Lys Asp Arg Val Phe Ser Ser Pro Arg
410 415 420

Gly Val Ala Ala Lys Gly Lys Gly Ser Pro Gln Ala Gln Thr Val
425 430 435

Arg Arg Ser Pro Ser Ala Asp Gln Ser Leu Glu Asp Ser Pro Ser
440 445 450

Lys Val Pro Lys Ser Trp Ser Phe Gly Asp Arg Ser Arg Ala Arg
455 460 465

Gln Ala Phe Arg Ile Lys Gly Ala Ala Ser Arg Gln Asn Ser Glu
470 475 480

Glu Ala Ser Leu Pro Gly Glu Asp Ile Val Asp Asp Lys Ser Cys
485 490 495

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Pro Cys Glu Phe Val Thr Glu Asp Leu Thr Pro Gly Leu Lys Val
                500                 505                 510

Ser Ile Arg Ala Val Cys Val Met Arg Phe Leu Val Ser Lys Arg
                515                 520                 525

Lys Phe Lys Glu Ser Leu Arg Pro Tyr Asp Val Met Asp Val Ile
                530                 535                 540

Glu Gln Tyr Ser Ala Gly His Leu Asp Met Leu Ser Arg Ile Lys
                545                 550                 555

Ser Leu Gln Ser Arg Val Asp Gln Ile Val Gly Arg Gly Pro Ala
                560                 565                 570

Ile Thr Asp Lys Asp Arg Thr Lys Gly Pro Ala Glu Ala Glu Leu
                575                 580                 585

Pro Glu Asp Pro Ser Met Met Gly Arg Leu Gly Lys Val Glu Lys
                590                 595                 600

Gln Val Leu Ser Met Glu Lys Lys Leu Asp Phe Leu Val Asn Ile
                605                 610                 615

Tyr Met Gln Arg Met Gly Ile Pro Pro Thr Glu Thr Glu Ala Tyr
                620                 625                 630

Phe Gly Ala Lys Glu Pro Glu Pro Ala Pro Pro Tyr His Ser Pro
                635                 640                 645

Glu Asp Ser Arg Glu His Val Asp Arg His Gly Cys Ile Val Lys
                650                 655                 660

Ile Val Arg Ser Ser Ser Ser Thr Gly Gln Lys Asn Phe Ser Ala
                665                 670                 675

Pro Pro Ala Ala Pro Pro Val Gln Cys Pro Pro Ser Thr Ser Trp
                680                 685                 690

Gln Pro Gln Ser His Pro Arg Gln Gly His Gly Thr Ser Pro Val
                695                 700                 705

Gly Asp His Gly Ser Leu Val Arg Ile Pro Pro Pro Pro Ala His
                710                 715                 720

Glu Arg Ser Leu Ser Ala Tyr Gly Gly Gly Asn Arg Ala Ser Met
                725                 730                 735

Glu Phe Leu Arg Gln Glu Asp Thr Pro Gly Cys Arg Pro Pro Glu
                740                 745                 750

Gly Thr Leu Arg Asp Ser Asp Thr Ser Ile Ser Ile Pro Ser Val
                755                 760                 765

Asp His Glu Glu Leu Glu Arg Ser Phe Ser Gly Phe Ser Ile Ser
                770                 775                 780

Gln Ser Lys Glu Asn Leu Asp Ala Leu Asn Ser Cys Tyr Ala Ala
```

785 790 795

Val Ala Pro Cys Ala Lys Val Arg Pro Tyr Ile Ala Glu Gly Glu
800 805 810

Ser Asp Thr Asp Ser Asp Leu Cys Thr Pro Cys Gly Pro Pro Pro
815 820 825

Arg Ser Ala Thr Gly Glu Gly Pro Phe Gly Asp Val Gly Trp Ala
830 835 840

Gly Pro Arg Lys

<210> 153
<211> 415
<212> PRT
<213> Homo sapien

<400> 153
Met Val Phe Ala His Arg Met Asp Asn Ser Lys Pro His Leu Ile
1 5 10 15

Ile Pro Thr Leu Leu Val Pro Leu Gln Asn Arg Ser Cys Thr Glu
20 25 30

Thr Ala Thr Pro Leu Pro Ser Gln Tyr Leu Met Glu Leu Ser Glu
35 40 45

Glu His Ser Trp Met Ser Asn Gln Thr Asp Leu His Tyr Val Leu
50 55 60

Lys Pro Gly Glu Val Ala Thr Ala Ser Ile Phe Phe Gly Ile Leu
65 70 75

Trp Leu Phe Ser Ile Phe Gly Asn Ser Leu Val Cys Leu Val Ile
80 85 90

His Arg Ser Arg Arg Thr Gln Ser Thr Thr Asn Tyr Phe Val Val
95 100 105

Ser Met Ala Cys Ala Asp Leu Leu Ile Ser Val Ala Ser Thr Pro
110 115 120

Phe Val Leu Leu Gln Phe Thr Thr Gly Arg Trp Thr Leu Gly Ser
125 130 135

Ala Thr Cys Lys Val Val Arg Tyr Phe Gln Tyr Leu Thr Pro Gly
140 145 150

Val Gln Ile Tyr Val Leu Leu Ser Ile Cys Ile Asp Arg Phe Tyr
155 160 165

Thr Ile Val Tyr Pro Leu Ser Phe Lys Val Ser Arg Glu Lys Ala
170 175 180

Lys Lys Met Ile Ala Ala Ser Trp Ile Phe Asp Ala Gly Phe Val
185 190 195

Thr Pro Val Leu Phe Phe Tyr Gly Ser Asn Trp Asp Ser His Cys
200 205 210

Asn Tyr Phe Leu Pro Ser Ser Trp Glu Gly Thr Ala Tyr Thr Val
215 220 225

Ile His Phe Leu Val Gly Phe Val Ile Pro Ser Val Leu Ile Ile
230 235 240

Leu Phe Tyr Gln Lys Val Ile Lys Tyr Ile Trp Arg Ile Gly Thr
245 250 255

Asp Gly Arg Thr Val Arg Arg Thr Met Asn Ile Val Pro Arg Thr
260 265 270

Lys Val Lys Thr Ile Lys Met Phe Leu Ile Leu Asn Leu Leu Phe
275 280 285

Leu Leu Ser Trp Leu Pro Phe His Val Ala Gln Leu Trp His Pro
290 295 300

His Glu Gln Asp Tyr Lys Lys Ser Ser Leu Val Phe Thr Ala Ile
305 310 315

Thr Trp Ile Ser Phe Ser Ser Ser Ala Ser Lys Pro Thr Leu Tyr
320 325 330

Ser Ile Tyr Asn Ala Asn Phe Arg Arg Gly Met Lys Glu Thr Phe
335 340 345

Cys Met Ser Ser Met Lys Cys Tyr Arg Ser Asn Ala Tyr Thr Ile
350 355 360

Thr Thr Ser Ser Arg Met Ala Lys Lys Asn Tyr Val Gly Ile Ser
365 370 375

Glu Ile Pro Ser Met Ala Lys Thr Ile Thr Lys Asp Ser Ile Tyr
380 385 390

Asp Ser Phe Asp Arg Glu Ala Lys Glu Lys Lys Leu Ala Trp Pro
395 400 405

Ile Asn Ser Asn Pro Pro Asn Thr Phe Val
410 415

<210> 154
<211> 842
<212> PRT
<213> Homo sapien

<400> 154
Met Ala Val Arg Pro Gly Leu Trp Pro Ala Leu Leu Gly Ile Val
1 5 10 15

Leu Ala Ala Trp Leu Arg Gly Ser Gly Ala Gln Gln Ser Ala Thr
20 25 30

Val Ala Asn Pro Val Pro Gly Ala Asn Pro Asp Leu Leu Pro His

```
                 35                  40                  45

Phe Leu Val Glu Pro Glu Asp Val Tyr Ile Val Lys Asn Lys Pro
                 50                  55                  60

Val Leu Leu Val Cys Lys Ala Val Pro Ala Thr Gln Ile Phe Phe
                 65                  70                  75

Lys Cys Asn Gly Glu Trp Val Arg Gln Val Asp His Val Ile Glu
                 80                  85                  90

Arg Ser Thr Asp Gly Ser Ser Gly Leu Pro Thr Met Glu Val Arg
                 95                 100                 105

Ile Asn Val Ser Arg Gln Gln Val Glu Lys Val Phe Gly Leu Glu
                110                 115                 120

Glu Tyr Trp Cys Gln Cys Val Ala Trp Ser Ser Ser Gly Thr Thr
                125                 130                 135

Lys Ser Gln Lys Ala Tyr Ile Arg Ile Ala Tyr Leu Arg Lys Asn
                140                 145                 150

Phe Glu Gln Glu Pro Leu Ala Lys Glu Val Ser Leu Glu Gln Gly
                155                 160                 165

Ile Val Leu Pro Cys Arg Pro Pro Glu Gly Ile Pro Pro Ala Glu
                170                 175                 180

Val Glu Trp Leu Arg Asn Glu Asp Leu Val Asp Pro Ser Leu Asp
                185                 190                 195

Pro Asn Val Tyr Ile Thr Arg Glu His Ser Leu Val Val Arg Gln
                200                 205                 210

Ala Arg Leu Ala Asp Thr Ala Asn Tyr Thr Cys Val Ala Lys Asn
                215                 220                 225

Ile Val Ala Arg Arg Arg Ser Ala Ser Ala Ala Val Ile Val Tyr
                230                 235                 240

Val Asp Gly Ser Trp Ser Pro Trp Ser Lys Trp Ser Ala Cys Gly
                245                 250                 255

Leu Asp Cys Thr His Trp Arg Ser Arg Glu Cys Ser Asp Pro Ala
                260                 265                 270

Pro Arg Asn Gly Gly Glu Glu Cys Gln Gly Thr Asp Leu Asp Thr
                275                 280                 285

Arg Asn Cys Thr Ser Asp Leu Cys Val His Thr Ala Ser Gly Pro
                290                 295                 300

Glu Asp Val Ala Leu Tyr Val Gly Leu Ile Ala Val Ala Val Cys
                305                 310                 315

Leu Val Leu Leu Leu Leu Val Leu Ile Leu Val Tyr Cys Arg Lys
                320                 325                 330
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Lys Glu Gly Leu Asp Ser Asp Val Ala Asp Ser Ser Ile Leu Thr
                335                 340                 345

Ser Gly Phe Gln Pro Val Ser Ile Lys Pro Ser Lys Ala Asp Asn
                350                 355                 360

Pro His Leu Leu Thr Ile Gln Pro Asp Leu Ser Thr Thr Thr Thr
                365                 370                 375

Thr Tyr Gln Gly Ser Leu Cys Pro Arg Gln Asp Gly Pro Ser Pro
                380                 385                 390

Lys Phe Gln Leu Thr Asn Gly His Leu Leu Ser Pro Leu Gly Gly
                395                 400                 405

Gly Arg His Thr Leu His His Ser Ser Pro Thr Ser Glu Ala Glu
                410                 415                 420

Glu Phe Val Ser Arg Leu Ser Thr Gln Asn Tyr Phe Arg Ser Leu
                425                 430                 435

Pro Arg Gly Thr Ser Asn Met Thr Tyr Gly Thr Phe Asn Phe Leu
                440                 445                 450

Gly Gly Arg Leu Met Ile Pro Asn Thr Gly Ile Ser Leu Leu Ile
                455                 460                 465

Pro Pro Asp Ala Ile Pro Arg Gly Lys Ile Tyr Glu Ile Tyr Leu
                470                 475                 480

Thr Leu His Lys Pro Glu Asp Val Arg Leu Pro Leu Ala Gly Cys
                485                 490                 495

Gln Thr Leu Leu Ser Pro Ile Val Ser Cys Gly Pro Pro Gly Val
                500                 505                 510

Leu Leu Thr Arg Pro Val Ile Leu Ala Met Asp His Cys Gly Glu
                515                 520                 525

Pro Ser Pro Asp Ser Trp Ser Leu Arg Leu Lys Lys Gln Ser Cys
                530                 535                 540

Glu Gly Ser Trp Glu Asp Val Leu His Leu Gly Glu Glu Ala Pro
                545                 550                 555

Ser His Leu Tyr Tyr Cys Gln Leu Glu Ala Ser Ala Cys Tyr Val
                560                 565                 570

Phe Thr Glu Gln Leu Gly Arg Phe Ala Leu Val Gly Glu Ala Leu
                575                 580                 585

Ser Val Ala Ala Ala Lys Arg Leu Lys Leu Leu Leu Phe Ala Pro
                590                 595                 600

Val Ala Cys Thr Ser Leu Glu Tyr Asn Ile Arg Val Tyr Cys Leu
                605                 610                 615

His Asp Thr His Asp Ala Leu Lys Glu Val Val Gln Leu Glu Lys
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620 625 630

Gln Leu Gly Gly Gln Leu Ile Gln Glu Pro Arg Val Leu His Phe
635 640 645

Lys Asp Ser Tyr His Asn Leu Arg Leu Ser Ile His Asp Val Pro
650 655 660

Ser Ser Leu Trp Lys Ser Lys Leu Leu Val Ser Tyr Gln Glu Ile
665 670 675

Pro Phe Tyr His Ile Trp Asn Gly Thr Gln Arg Tyr Leu His Cys
680 685 690

Thr Phe Thr Leu Glu Arg Val Ser Pro Ser Thr Ser Asp Leu Ala
695 700 705

Cys Lys Leu Trp Val Trp Gln Val Glu Gly Asp Gly Gln Ser Phe
710 715 720

Ser Ile Asn Phe Asn Ile Thr Lys Asp Thr Arg Phe Ala Glu Leu
725 730 735

Leu Ala Leu Glu Ser Glu Ala Gly Val Pro Ala Leu Val Gly Pro
740 745 750

Ser Ala Phe Lys Ile Pro Phe Leu Ile Arg Gln Lys Ile Ile Ser
755 760 765

Ser Leu Asp Pro Pro Cys Arg Arg Gly Ala Asp Trp Arg Thr Leu
770 775 780

Ala Gln Lys Leu His Leu Asp Ser His Leu Ser Phe Phe Ala Ser
785 790 795

Lys Pro Ser Pro Thr Ala Met Ile Leu Asn Leu Trp Glu Ala Arg
800 805 810

His Phe Pro Asn Gly Asn Leu Ser Gln Leu Ala Ala Ala Val Ala
815 820 825

Gly Leu Gly Gln Pro Asp Ala Gly Leu Phe Thr Val Ser Glu Ala
830 835 840

Glu Cys

<210> 155
<211> 1366
<212> PRT
<213> Homo sapien

<400> 155
Met Ala Gln Ala Leu Leu Val Pro Pro Gly Pro Glu Ser Phe Arg
1 5 10 15

Leu Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Lys Arg Ala Ala
20 25 30

Glu Glu Lys Ala Lys Lys Pro Lys Lys Glu Gln Asp Asn Asp Asp
35 40 45

Glu Asn Lys Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn
50 55 60

Leu Pro Phe Ile Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu
65 70 75

Pro Leu Glu Asp Leu Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe
80 85 90

Ile Val Met Asn Lys Gly Lys Ala Ile Phe Arg Phe Ser Ala Thr
95 100 105

Ser Ala Leu Tyr Ile Leu Thr Pro Leu Asn Pro Val Arg Lys Ile
110 115 120

Ala Ile Lys Ile Leu Val His Ser Leu Phe Ser Met Leu Ile Met
125 130 135

Cys Thr Ile Leu Thr Asn Cys Val Phe Met Thr Leu Ser Asn Pro
140 145 150

Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr Phe Thr Gly Ile Tyr
155 160 165

Thr Phe Glu Ser Leu Ile Lys Ile Leu Val Arg Gly Phe Cys Leu
170 175 180

Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp Leu Asp Phe
185 190 195

Ser Val Ile Val Met Ala Tyr Val Thr Glu Phe Val Ser Leu Gly
200 205 210

Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu Lys
215 220 225

Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
230 235 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val
245 250 255

Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met
260 265 270

Gly Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Ser Asp Ser
275 280 285

Ala Phe Glu Thr Asn Thr Thr Ser Tyr Phe Asn Gly Thr Met Asp
290 295 300

Ser Asn Gly Thr Phe Val Asn Val Thr Met Ser Thr Phe Asn Trp
305 310 315

Lys Asp Asn Ile Gly Asp Asp Ser His Phe Tyr Val Leu Asp Gly

320 325 330

Gln Lys Asp Pro Leu Leu Cys Gly Asn Gly Ser Asp Ala Gly Gln
335 340 345

Cys Pro Glu Gly Tyr Ile Cys Val Lys Ala Gly Arg Asn Pro Asn
350 355 360

Tyr Gly Tyr Thr Ser Phe Asp Thr Phe Ser Trp Ala Phe Leu Ser
365 370 375

Leu Phe Arg Leu Met Thr Gln Asp Tyr Trp Glu Asn Leu Tyr Gln
380 385 390

Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Thr Ile Phe Phe Val
395 400 405

Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Val Asn Leu Ile Leu
410 415 420

Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn Gln Ala Thr Leu
425 430 435

Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Leu Glu
440 445 450

Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Val Ala Ala Ala
455 460 465

Ser Ala Ala Ser Arg Asp Phe Ser Gly Ile Gly Gly Leu Gly Glu
470 475 480

Leu Leu Glu Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser
485 490 495

Ala Lys Glu Trp Arg Asn Arg Arg Lys Lys Arg Arg Gln Arg Glu
500 505 510

His Leu Glu Gly Asn Asn Lys Gly Glu Arg Asp Ser Phe Pro Lys
515 520 525

Ser Glu Ser Glu Asp Ser Val Lys Arg Ser Ser Phe Leu Phe Ser
530 535 540

Met Asp Gly Asn Arg Leu Thr Ser Asp Lys Lys Phe Cys Ser Pro
545 550 555

His Gln Ser Leu Leu Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg
560 565 570

Arg Asn Ser Lys Thr Ser Ile Phe Ser Phe Arg Gly Arg Ala Lys
575 580 585

Asp Val Gly Ser Glu Asn Asp Phe Ala Asp Asp Glu His Ser Thr
590 595 600

Phe Glu Asp Ser Glu Thr Arg Arg Asp Ser Leu Phe Glu Pro His
605 610 615

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Arg His Gly Glu Arg Arg Asn Ser Asn Gly Thr Thr Thr Glu Thr
                620                 625                 630

Glu Val Arg Lys Arg Arg Leu Ser Ser Tyr Gln Ile Ser Met Glu
                635                 640                 645

Met Leu Glu Asp Ser Ser Gly Arg Gln Arg Ala Val Ser Ile Ala
                650                 655                 660

Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu Ser Arg Gln
                665                 670                 675

Lys Cys Pro Pro Cys Trp Tyr Arg Phe Ala Asn Val Phe Leu Ile
                680                 685                 690

Trp Asp Cys Cys Asp Ala Trp Leu Lys Val Lys His Leu Val Asn
                695                 700                 705

Leu Ile Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys
                710                 715                 720

Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met
                725                 730                 735

Thr Glu Gln Phe Ser Ser Val Leu Thr Val Gly Asn Leu Val Phe
                740                 745                 750

Thr Gly Ile Phe Thr Ala Glu Met Val Leu Lys Ile Ile Ala Met
                755                 760                 765

Asp Pro Tyr Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly
                770                 775                 780

Ile Ile Val Ser Leu Ser Leu Met Glu Leu Gly Leu Ser Asn Val
                785                 790                 795

Glu Gly Leu Ser Val Leu Arg Ser Phe Arg Leu Leu Arg Val Phe
                800                 805                 810

Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile Lys Ile
                815                 820                 825

Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val Leu
                830                 835                 840

Ala Ile Ile Val Phe Ile Phe Ala Val Val Gly Met Gln Leu Phe
                845                 850                 855

Gly Lys Ser Tyr Lys Glu Cys Val Cys Lys Ile Asn Asp Asp Cys
                860                 865                 870

Thr Leu Pro Arg Trp His Met Asn Asp Phe Phe His Ser Phe Leu
                875                 880                 885

Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp
                890                 895                 900

Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu Ile Val Phe
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905 910 915

Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe
920 925 930

Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala Ala
935 940 945

Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
950 955 960

Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu
965 970 975

Cys Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile
980 985 990

His Glu Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly
995 1000 1005

Ile Glu Ile Ser Lys Ala Leu Asn Tyr Leu Arg Asp Gly Asn Gly
1010 1015 1020

Thr Thr Ser Gly Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val
1025 1030 1035

Ile Asp Glu Asn Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu
1040 1045 1050

Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn
1055 1060 1065

Leu Asn Thr Glu Glu Phe Ser Ser Glu Ser Glu Leu Glu Glu Ser
1070 1075 1080

Lys Glu Lys Leu Asn Ala Thr Ser Ser Ser Glu Gly Ser Thr Val
1085 1090 1095

Asp Val Val Leu Pro Arg Glu Gly Glu Gln Ala Glu Thr Glu Pro
1100 1105 1110

Glu Glu Asp Leu Lys Pro Glu Ala Cys Phe Thr Glu Gly Cys Ile
1115 1120 1125

Lys Lys Phe Pro Phe Cys Gln Val Ser Thr Glu Glu Gly Lys Gly
1130 1135 1140

Lys Ile Trp Trp Asn Leu Arg Lys Thr Cys Tyr Ser Ile Val Glu
1145 1150 1155

His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu Leu Ser
1160 1165 1170

Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu Gln Arg Lys
1175 1180 1185

Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr
1190 1195 1200

Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Phe
1205 1210 1215

Gln Thr Tyr Phe Thr Asn Ala Trp Cys Arg Leu Asp Phe Leu Ile
1220 1225 1230

Val Asp Val Ser Leu Val Ser Leu Val Ala Asn Ala Leu Gly Tyr
1235 1240 1245

Ser Glu Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu
1250 1255 1260

Arg Pro Leu Arg Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val
1265 1270 1275

Val Asn Ala Leu Val Gly Ala Ile Pro Ser Ile Met Asn Val Leu
1280 1285 1290

Leu Val Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val
1295 1300 1305

Asn Leu Phe Ala Gly Lys Phe Tyr His Cys Val Asn Met Thr Thr
1310 1315 1320

Gly Asn Met Phe Asp Ile Ser Asp Val Asn Asn Leu Ser Asp Cys
1325 1330 1335

Gln Ala Leu Gly Lys Gln Ala Arg Trp Lys Asn Val Lys Val Asn
1340 1345 1350

Phe Asp Asn Val Gly Ala Gly Tyr Leu Ala Leu Leu Gln Val Val
1355 1360 1365

Ser

<210> 156
<211> 1951
<212> PRT
<213> Homo sapien

<400> 156
Met Ala Gln Ala Leu Leu Val Pro Pro Gly Pro Glu Ser Phe Arg
1 5 10 15

Leu Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Lys Arg Ala Ala
20 25 30

Glu Glu Lys Ala Lys Lys Pro Lys Lys Glu Gln Asp Asn Asp Asp
35 40 45

Glu Asn Lys Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn
50 55 60

Leu Pro Phe Ile Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu
65 70 75

Pro Leu Glu Asp Leu Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe

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                 80                  85                  90

Ile Val Met Asn Lys Gly Lys Ala Ile Phe Arg Phe Ser Ala Thr
                 95                 100                 105

Ser Ala Leu Tyr Ile Leu Thr Pro Leu Asn Pro Val Arg Lys Ile
                110                 115                 120

Ala Ile Lys Ile Leu Val His Ser Leu Phe Ser Met Leu Ile Met
                125                 130                 135

Cys Thr Ile Leu Thr Asn Cys Val Phe Met Thr Leu Ser Asn Pro
                140                 145                 150

Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr Phe Thr Gly Ile Tyr
                155                 160                 165

Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala Arg Gly Phe Cys Leu
                170                 175                 180

Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp Leu Asp Phe
                185                 190                 195

Ser Val Ile Val Met Ala Tyr Val Thr Glu Phe Val Asp Leu Gly
                200                 205                 210

Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu Lys
                215                 220                 225

Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
                230                 235                 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val
                245                 250                 255

Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met
                260                 265                 270

Gly Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Ser Asp Ser
                275                 280                 285

Ala Phe Glu Thr Asn Thr Thr Ser Tyr Phe Asn Gly Thr Met Asp
                290                 295                 300

Ser Asn Gly Thr Phe Val Asn Val Thr Met Ser Thr Phe Asn Trp
                305                 310                 315

Lys Asp Tyr Ile Gly Asp Asp Ser His Phe Tyr Val Leu Asp Gly
                320                 325                 330

Gln Lys Asp Pro Leu Leu Cys Gly Asn Gly Ser Asp Ala Gly Gln
                335                 340                 345

Cys Pro Glu Gly Tyr Ile Cys Val Lys Ala Gly Arg Asn Pro Asn
                350                 355                 360

Tyr Gly Tyr Thr Ser Phe Asp Thr Phe Ser Trp Ala Phe Leu Ser
                365                 370                 375
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Leu Phe Arg Leu Met Thr Gln Asp Tyr Trp Glu Asn Leu Tyr Gln
                380                 385                 390

Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met Ile Phe Phe Val
                395                 400                 405

Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Val Asn Leu Ile Leu
                410                 415                 420

Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn Gln Ala Thr Leu
                425                 430                 435

Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Leu Glu
                440                 445                 450

Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Val Ala Ala Ala
                455                 460                 465

Ser Ala Ala Ser Arg Asp Phe Ser Gly Val Gly Gly Leu Gly Glu
                470                 475                 480

Leu Leu Glu Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Gly
                485                 490                 495

Ala Lys Glu Trp Arg Asn Arg Arg Lys Lys Arg Arg Gln Arg Glu
                500                 505                 510

His Leu Glu Gly Asn Asn Lys Gly Glu Arg Asp Ser Phe Pro Lys
                515                 520                 525

Ser Glu Ser Glu Asp Ser Val Lys Arg Ser Ser Phe Leu Phe Ser
                530                 535                 540

Met Asp Gly Asn Arg Leu Thr Ser Asp Lys Lys Phe Cys Ser Pro
                545                 550                 555

His Gln Ser Leu Leu Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg
                560                 565                 570

Arg Asn Ser Lys Thr Ser Ile Phe Ser Phe Arg Gly Arg Ala Lys
                575                 580                 585

Asp Val Gly Ser Glu Asn Asp Phe Ala Asp Asp Glu His Ser Thr
                590                 595                 600

Phe Glu Asp Ser Glu Ser Arg Arg Asp Ser Leu Phe Val Pro His
                605                 610                 615

Arg His Gly Glu Arg Arg Asn Ser Asn Gly Thr Thr Thr Glu Thr
                620                 625                 630

Glu Val Arg Lys Arg Arg Leu Ser Ser Tyr Gln Ile Ser Met Glu
                635                 640                 645

Met Leu Glu Asp Ser Ser Gly Arg Gln Arg Ala Val Ser Ile Ala
                650                 655                 660

Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu Ser Arg Gln
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                    665                 670                 675

Lys Cys Pro Pro Cys Trp Tyr Arg Phe Ala Asn Val Phe Leu Ile
                680                 685                 690

Trp Asp Cys Cys Asp Ala Trp Leu Lys Val Lys His Leu Val Asn
                695                 700                 705

Leu Ile Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys
                710                 715                 720

Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met
                725                 730                 735

Thr Glu Gln Phe Ser Ser Val Leu Thr Val Gly Asn Leu Val Phe
                740                 745                 750

Thr Gly Ile Phe Thr Ala Glu Met Val Leu Lys Ile Ile Ala Met
                755                 760                 765

Asp Pro Tyr Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly
                770                 775                 780

Ile Ile Val Ser Leu Ser Leu Met Glu Leu Gly Leu Ser Asn Val
                785                 790                 795

Glu Gly Leu Ser Val Leu Arg Ser Phe Arg Leu Leu Arg Val Phe
                800                 805                 810

Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile Lys Ile
                815                 820                 825

Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val Leu
                830                 835                 840

Ala Ile Ile Val Phe Ile Phe Ala Val Val Gly Met Gln Leu Phe
                845                 850                 855

Gly Lys Ser Tyr Lys Glu Cys Val Cys Lys Ile Asn Asp Asp Cys
                860                 865                 870

Thr Leu Pro Arg Trp His Met Asn Asp Phe Phe His Ser Phe Leu
                875                 880                 885

Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp
                890                 895                 900

Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu Ile Val Phe
                905                 910                 915

Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe
                920                 925                 930

Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala Ala
                935                 940                 945

Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
                950                 955                 960
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Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu
                965                 970                 975

Cys Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile
                980                 985                 990

His Glu Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly
                995                1000                1005

Ile Glu Ile Ser Lys Glu Leu Asn Tyr Leu Arg Asp Gly Asn Gly
               1010                1015                1020

Thr Thr Ser Gly Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val
               1025                1030                1035

Ile Asp Glu Asn Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu
               1040                1045                1050

Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn
               1055                1060                1065

Leu Asn Thr Glu Glu Phe Ser Ser Glu Ser Glu Leu Glu Glu Ser
               1070                1075                1080

Lys Glu Lys Leu Asn Ala Thr Ser Ser Ser Glu Gly Ser Thr Val
               1085                1090                1095

Asp Val Val Leu Pro Arg Glu Gly Glu Gln Ala Glu Thr Glu Pro
               1100                1105                1110

Glu Glu Asp Phe Lys Pro Glu Ala Cys Phe Thr Glu Gly Cys Ile
               1115                1120                1125

Lys Lys Phe Pro Phe Cys Gln Val Ser Thr Glu Glu Gly Lys Gly
               1130                1135                1140

Lys Ile Trp Trp Asn Leu Arg Lys Thr Cys Tyr Ser Ile Val Glu
               1145                1150                1155

His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu Leu Ser
               1160                1165                1170

Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu Gln Arg Lys
               1175                1180                1185

Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr
               1190                1195                1200

Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Phe
               1205                1210                1215

Gln Thr Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile
               1220                1225                1230

Val Asp Val Ser Leu Val Ser Leu Val Ala Asn Ala Leu Gly Tyr
               1235                1240                1245

Ser Glu Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu
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1250 1255 1260

Arg Pro Leu Arg Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val
1265 1270 1275

Val Asn Ala Leu Val Gly Ala Ile Pro Ser Ile Met Asn Val Leu
1280 1285 1290

Leu Val Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val
1295 1300 1305

Asn Leu Phe Ala Gly Lys Phe Tyr His Cys Val Asn Met Thr Thr
1310 1315 1320

Gly Asn Met Phe Asp Ile Ser Asp Val Asn Asn Leu Ser Asp Cys
1325 1330 1335

Gln Ala Leu Gly Lys Gln Ala Arg Trp Lys Asn Val Lys Val Asn
1340 1345 1350

Phe Asp Asn Val Gly Ala Gly Tyr Leu Ala Leu Leu Gln Val Ala
1355 1360 1365

Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala Ala Val Asp Ser
1370 1375 1380

Arg Asp Val Lys Leu Gln Pro Val Tyr Glu Glu Asn Leu Tyr Met
1385 1390 1395

Tyr Leu Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe Phe Thr
1400 1405 1410

Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln Gln
1415 1420 1425

Lys Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu Gln
1430 1435 1440

Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys Pro
1445 1450 1455

Gln Lys Pro Ile Pro Arg Pro Ala Asn Lys Phe Gln Gly Met Val
1460 1465 1470

Phe Asp Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met Ile
1475 1480 1485

Leu Ile Cys Leu Asn Met Val Thr Met Met Val Glu Thr Asp Asp
1490 1495 1500

Gln Gly Lys Tyr Met Thr Leu Val Leu Ser Arg Ile Asn Leu Val
1505 1510 1515

Phe Ile Val Leu Phe Thr Gly Glu Phe Val Leu Lys Leu Val Ser
1520 1525 1530

Leu Arg His Tyr Tyr Phe Thr Ile Gly Trp Asn Ile Phe Asp Phe
1535 1540 1545

Val Val Val Ile Leu Ser Ile Val Gly Met Phe Leu Ala Glu Met
1550 1555 1560

Ile Glu Lys Tyr Ser Val Ser Pro Thr Leu Phe Arg Val Ile Arg
1565 1570 1575

Leu Ala Arg Ile Gly Arg Ile Leu Arg Leu Ile Lys Gly Ala Lys
1580 1585 1590

Gly Ile Arg Thr Leu Leu Phe Ala Leu Met Met Ser Leu Pro Ala
1595 1600 1605

Leu Phe Asn Ile Gly Leu Leu Leu Phe Leu Val Met Phe Ile Tyr
1610 1615 1620

Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys Lys Glu Ala
1625 1630 1635

Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn Ser Met
1640 1645 1650

Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly Leu
1655 1660 1665

Leu Ala Pro Ile Leu Asn Ser Ala Pro Pro Asp Cys Asp Pro Asp
1670 1675 1680

Thr Ile His Pro Gly Ser Ser Val Lys Gly Asp Arg Gly Asp Pro
1685 1690 1695

Ser Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser Phe
1700 1705 1710

Leu Val Val Val Asn Met Tyr Ile Ala Val Ile Leu Glu Asn Phe
1715 1720 1725

Ser Val Ala Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp Asp
1730 1735 1740

Phe Glu Met Phe Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp Ala
1745 1750 1755

Thr Gln Phe Ile Glu Phe Ser Lys Leu Ser Asp Phe Ala Ala Ala
1760 1765 1770

Leu Asp Pro Pro Leu Leu Ile Ala Lys Pro Asn Lys Val Gln Leu
1775 1780 1785

Ile Ala Met Asp Leu Pro Met Val Ser Gly Asp Arg Ile His Cys
1790 1795 1800

Leu Asp Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Cys Glu Ser
1805 1810 1815

Gly Glu Met Asp Ala Leu Arg Ile Gln Met Glu Asp Arg Phe Met
1820 1825 1830

Ala Ser Asn Pro Ser Lys Val Ser Tyr Glu Pro Ile Thr Thr Thr

1835 1840 1845

Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Ala Ile Ile Gln Arg
1850 1855 1860

Asn Phe Arg Cys Tyr Leu Leu Lys Gln Arg Leu Lys Asn Ile Ser
1865 1870 1875

Ser Asn Tyr Asn Lys Glu Ala Ile Lys Gly Arg Ile Asp Leu Pro
1880 1885 1890

Ile Lys Gln Asp Met Ile Ile Asp Lys Leu Asn Gly Asn Ser Thr
1895 1900 1905

Pro Glu Lys Thr Asp Gly Ser Ser Ser Thr Thr Ser Pro Pro Ser
1910 1915 1920

Tyr Asp Ser Val Thr Lys Pro Asp Lys Glu Lys Phe Glu Lys Asp
1925 1930 1935

Lys Pro Glu Lys Glu Ser Lys Gly Lys Glu Val Arg Glu Asn Gln
1940 1945 1950

Lys

<210> 157
<211> 380
<212> PRT
<213> Homo sapien

<400> 157
Met Gly Ala Ala Ala Ala Gln Ala Pro Leu Gly Leu Pro Ala Ala
1 5 10 15

Ser Ala Arg Leu Leu Leu Leu Ala Thr Ser Val Leu Leu Leu Phe
20 25 30

Ala Phe Ser Leu Pro Gly Ser Arg Ala Ser Asn Gln Pro Pro Gly
35 40 45

Gly Gly Gly Gly Thr Gly Gly Asp Cys Pro Gly Gly Lys Gly Lys
50 55 60

Ser Ile Asn Cys Ser Glu Leu Asn Val Arg Glu Ser Asp Val Arg
65 70 75

Val Cys Asp Glu Ser Ser Cys Lys Tyr Gly Gly Val Cys Lys Glu
80 85 90

Asp Gly Asp Gly Leu Lys Cys Ala Cys Gln Phe Gln Cys His Thr
95 100 105

Asn Tyr Ile Pro Val Cys Gly Ser Asn Gly Asp Thr Tyr Gln Asn
110 115 120

Glu Cys Phe Leu Arg Arg Ala Ala Cys Lys His Gln Lys Glu Ile
125 130 135

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Thr Val Ile Ala Arg Gly Pro Cys Tyr Ser Asp Asn Gly Ser Gly
                140                 145                 150

Ser Gly Glu Gly Glu Glu Glu Gly Ser Gly Ala Glu Val His Arg
                155                 160                 165

Lys His Ser Lys Cys Gly Pro Cys Lys Tyr Lys Ala Glu Cys Asp
                170                 175                 180

Glu Asp Ala Glu Asn Val Gly Cys Val Cys Asn Ile Asp Cys Ser
                185                 190                 195

Gly Tyr Ser Phe Asn Pro Val Cys Ala Ser Asp Gly Ser Ser Tyr
                200                 205                 210

Asn Asn Pro Cys Phe Val Arg Glu Ala Ser Cys Ile Lys Gln Glu
                215                 220                 225

Gln Ile Asp Ile Arg His Leu Gly His Cys Thr Asp Thr Asp Asp
                230                 235                 240

Thr Ser Leu Leu Gly Lys Lys Asp Asp Gly Leu Gln Tyr Arg Pro
                245                 250                 255

Asp Val Lys Asp Ala Ser Asp Gln Arg Glu Asp Val Tyr Ile Gly
                260                 265                 270

Asn His Met Pro Cys Pro Glu Asn Leu Asn Gly Tyr Cys Ile His
                275                 280                 285

Gly Lys Cys Glu Phe Ile Tyr Leu Leu Arg Arg Ala Ser Cys Arg
                290                 295                 300

Cys Glu Ser Gly Tyr Thr Gly Gln His Cys Glu Lys Thr Asp Phe
                305                 310                 315

Ser Ile Leu Tyr Val Val Pro Ser Arg Gln Lys Leu Thr His Val
                320                 325                 330

Leu Ile Ala Ala Ile Ile Gly Ala Val Gln Ile Ala Ile Ile Val
                335                 340                 345

Ala Ile Val Met Cys Ile Thr Arg Lys Cys Pro Lys Asn Asn Arg
                350                 355                 360

Gly Arg Arg Gln Lys Gln Asn Leu Gly His Phe Thr Ser Asp Thr
                365                 370                 375

Ser Ser Arg Met Val
                380

<210> 158
<211> 341
<212> PRT
<213> Homo sapien

<400> 158
Met Leu Pro Glu Gln Leu Tyr Phe Leu Gln Ser Pro Pro Glu Glu
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Glu Pro Glu Tyr His Pro Asp Ala Ser Ala Gln Glu Leu Asn Val
20 25 30

Arg Glu Ser Asp Val Arg Val Cys Asp Glu Ser Ser Cys Lys Tyr
35 40 45

Gly Gly Val Cys Lys Glu Asp Gly Asp Gly Leu Lys Cys Ala Cys
50 55 60

Gln Phe Gln Cys His Thr Asn Tyr Ile Pro Val Cys Gly Ser Asn
65 70 75

Gly Asp Thr Tyr Gln Asn Glu Cys Phe Leu Arg Arg Ala Ala Cys
80 85 90

Lys His Gln Lys Glu Ile Thr Val Ile Ala Arg Gly Pro Cys Tyr
95 100 105

Ser Asp Asn Gly Ser Gly Ser Gly Glu Gly Glu Glu Glu Gly Ser
110 115 120

Gly Ala Glu Val His Arg Lys His Ser Lys Cys Gly Pro Cys Lys
125 130 135

Tyr Lys Ala Glu Cys Asp Glu Asp Ala Glu Asn Val Gly Cys Val
140 145 150

Cys Asn Ile Asp Cys Ser Gly Tyr Ser Phe Asn Pro Val Cys Ala
155 160 165

Ser Asp Gly Ser Ser Tyr Asn Asn Pro Cys Phe Val Arg Glu Ala
170 175 180

Ser Cys Ile Lys Gln Glu Gln Ile Asp Ile Arg His Leu Gly His
185 190 195

Cys Thr Asp Thr Asp Asp Thr Ser Leu Leu Gly Lys Lys Asp Asp
200 205 210

Gly Leu Gln Tyr Arg Pro Asp Val Lys Asp Ala Ser Asp Gln Arg
215 220 225

Glu Asp Val Tyr Ile Gly Asn His Met Pro Cys Pro Glu Asn Leu
230 235 240

Asn Gly Tyr Cys Ile His Gly Lys Cys Glu Phe Ile Tyr Ser Thr
245 250 255

Gln Lys Ala Ser Cys Arg Cys Glu Ser Gly Tyr Thr Gly Gln His
260 265 270

Cys Glu Lys Thr Asp Phe Ser Ile Leu Tyr Val Val Pro Ser Arg
275 280 285

Gln Lys Leu Thr His Val Leu Ile Ala Ala Ile Ile Gly Ala Val
290 295 300

```
Gln Ile Ala Ile Ile Val Ala Ile Val Met Cys Ile Thr Arg Lys
                305                 310                 315

Cys Pro Lys Asn Asn Arg Gly Arg Arg Gln Lys Gln Asn Leu Gly
                320                 325                 330

His Phe Thr Ser Asp Thr Ser Ser Arg Met Val
                335                 340
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